Research Proposal Development

Baltimore, MD
April 13, 2012

Workshop Goals

Provide potential awardees with recommendations on developing competitive proposals (research proposals and CAREER proposals)

- The Larger Context
  - » DOs and DON'Ts
- Getting a Research Topic
- Finding a Home
- Writing the Summary
- Intellectual Merit and Broader Impacts
- The NSF merit review process
- Ethics
- Supplements
- Progress/Final Reports
- Getting Involved

CAREER Program

- "A Foundation-wide activity that offers the National Science Foundation's most prestigious awards in support of junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research within the context of the mission of their organizations."

CAREER Award

- Funds the academic career development of new faculty (it is not a research award)
- Is based on a development plan, "a well-argued and specific proposal for activities that will, over a 5-year period, build a firm foundation for a lifetime of contributions to research and education"
- Duration: 5 years
- Min (in most programs, it's also a max.) amount: $400,000
- Deadlines: July each year

You

- Who are you?
  - Your expertise/interests
  - Your career/life goals
  - Your position/resources
- Your proposal should fit into your life plan

What is your life plan?
Do you need to develop a strategic plan?

Your Strategic Plan

- A strategic plan has three parts:
  - Where are you today?
  - Where do you want to be in the future (5, 10, 20 years from now)?
  - How do you get from here to there?

A strategic plan is a roadmap for your life

Your Proposal

- Should advance you toward your life goals
  - Should be a stepping stone to the next thing
- Should be compatible with your institution's goals
- Should represent a contribution to society at large

Test: If you accomplish your objectives, are you better off for the effort?

DOs

- Have a strategic plan
- Build on your strengths
- Differentiate your proposal from your Ph.D. thesis work and other sponsored work
- Perform thorough literature search and exploratory research before writing the proposal
  - Journal articles (update with personal contact)
  - Read the NSF Grant Proposal Guide (GPG)
- Establish and keep your contacts

DON'Ts

- Rush
- Wait until last minute (1 month) to contact program directors
- Make the proposed work (research and education) too broad
- Make the proposed work too narrow
- Ask for too much (or too little) money
- Ignore rules (Grant Proposal Guide) and misc. items – violation of the GPG rules *will* result in return without review

Proposal Basics

- Write to the reviewers (not to me and not to yourself)
- Your proposal will be judged by the reviewers
- Reviewers want to know four things:
  - What is it about (the research objective)?
  - How will you do it (the technical approach)?
  - Can you do it (you and your facilities)?
  - Is it worth doing (intellectual merit and broader impact)?
- This is, basically, all the proposal needs to convey – but it needs to convey this

Getting a Research Topic

Beware!

The CAREER award is NOT a research award

The CAREER award is a career development award

Your proposal must reflect this focus

NSF

- We look for proposals that
  - Are innovative and push the frontiers of knowledge
  - Contribute to national needs and priorities
  - Go beyond marginalia
  - Integrate research and educational goals well
  - Actually involve research
- We do not support (except as incidental to the goals of the award)
  - Developmental efforts
  - Computer programming
  - Design of…
  - Commercialization

The CAREER Research Topic

- The CAREER proposal is *not* a research proposal
- The CAREER proposal is a proposal detailing how you will spend $400,000 to enhance your career development
- Your career involves a research *path*, not a research project
- Determine your research path - your lifelong research goals - and then identify milestones toward your goals
- Detail the first one or two as the research projects for your CAREER proposal

Your CAREER Research Path

- Lifelong research goals
  - Don't end with a single project
  - May never end
  - Have broad application
- Examples:
  - To improve our ability to make engineering decisions under uncertainty and risk
  - To perform large-scale modeling of engineering systems thereby enabling better system optimization
  - To improve our understanding of metal cutting operations enabling improvements in machining

The Selected Research Topic

- It must be research
- It must not have been done before
- It must be significant
- There must be higher than probability zero that you can do it (no perpetual motion machines, no fuzzy logic)
- It must lend itself to a viable research plan – there is a research methodology
- You must have the facilities to accomplish the research
- It should fit into your strategic plan

What is Research?

- Research is the *process* of finding out something that we (everyone) don't already know
- Scientific research builds upon the extant knowledge base and it is methodical, repeatable and verifiable
  - Methodical - you can specify in advance of the research a method to accomplish your objective
  - Repeatable - not a "strange" (random) event
  - Verifiable - tangible evidence

What is Research?

- Research is the *process* of finding out something that we (everyone) don't already know
- Scientific research builds upon the extant knowledge base and it is methodical, repeatable and verifiable

Question: Exactly what will your research contribute to the knowledge base?

Groundwork

- Know your field:
  - What is the current state-of-the-art
  - Who are the top ten researchers
  - What they are doing right now
  - Where they get their funding
  - What they consider to be the key research issues
  - Who would likely review your proposal
  - What are the grant opportunities

The Research Objective

- This is probably the hardest part of the proposal
- Examples of what not to write:
  - The research objective of this project is to create novel new transformational knowledge.
  - The objective of my research is to provide a quantum leap in the design of anti-gravity boots.
  - The goal of this project is to develop an integrated modeling tool for the hardening process.
  - The goal of this project is to develop innovative advances to enhance wire sawing processes.
  - Rapid prototyping machines are an important part of the vast array of tools. It is very important that we improve these machines. Rapid prototyping will form the backbone of manufacturing in the future.

The Research Objective

- How to do it right:
  - The research objective of this project is to measure the cross-section of the muon-nutrino interaction at 5 GeV accurate to 5%.
  - The research objective of this proposal is to test the hypothesis that physical phenomena x,y,z dominate the chip formation process in the machining of brittle materials.
  - The research goal of this project is to account for uncertainty in engineering design decision making through the application of utility theory.

The Research Objective

A well-stated objective leads one directly to the approach that must be taken to accomplish the objective

The Research Objective

- How to do it wrong ("actual" submissions):
  - This project aims to advance the research in predictive modeling for manufacturing process optimization.
  - The proposed study will significantly advance the theory of random fields.
  - This study will develop modeling and simulation-based technologies for building construction.
  - New methods in robust optimization are proposed for optimizing complex models under uncertainty.

The Research Objective

- Four acceptable ways to do it right:
  - The research objective of this proposal is to test the hypothesis *H*.
  - The research objective of this proposal is to measure parameter *P* with accuracy *A*.
  - The research objective of this proposal is to prove conjecture *C*.
  - The research objective of this proposal is to apply method *M* from field *Q* to problem *X* in field *R*.

The Research Objective

- Do not use words that mean "not research"
  - Develop
  - Design
  - Optimize
  - Control
  - Manage
- Use of words such as these gives the reviewers the impression that you are not doing research, there is no innovation, nothing is new, etc. – your ratings *will* be lower

The Research Objective

- Doing it right:
  - Frame your research: "My research goal is…"
  - Then: "As a step toward this goal, the research objective(s) of this CAREER proposal is(are)..."
  - Limit: 25 words or less
  - Be specific about your research objective
  - Note - if you are specific, the research methodology will follow directly
  - Be sure your statement is comprehensible
  - Put it up front - sentence one, paragraph one, page one
  - Do not give a weather report or state-of-the-union address

Beyond the Research Objective

- Your proposal must address four critical questions that reviewers will face:
  - What is the proposal about?
    - » Be sure to include clear statements of both research and educational objectives
  - Will the proposed approach accomplish the stated objectives?
    - » Be sure the reviewers are evaluating your approach based on your objectives
  - Can the PI carry out the proposed approach?
    - » Preliminary results and previous work argue this
  - Is it worth doing?
    - » Make the argument through the intellectual merit and broader impact statements

Finding a Home

CAREER Proposal Writing Workshop

Questions

- Is your "research" research?
  - If it isn't, it doesn't belong at NSF
- If the answer is "no," skip to the end, look for support from other sources
- If the answer is "yes," what is your research objective?
  - The right NSF home for your research depends on the your research objective, not on the application of your research
  - Be prepared to answer the question: "What is your research objective?" (25 words or less)

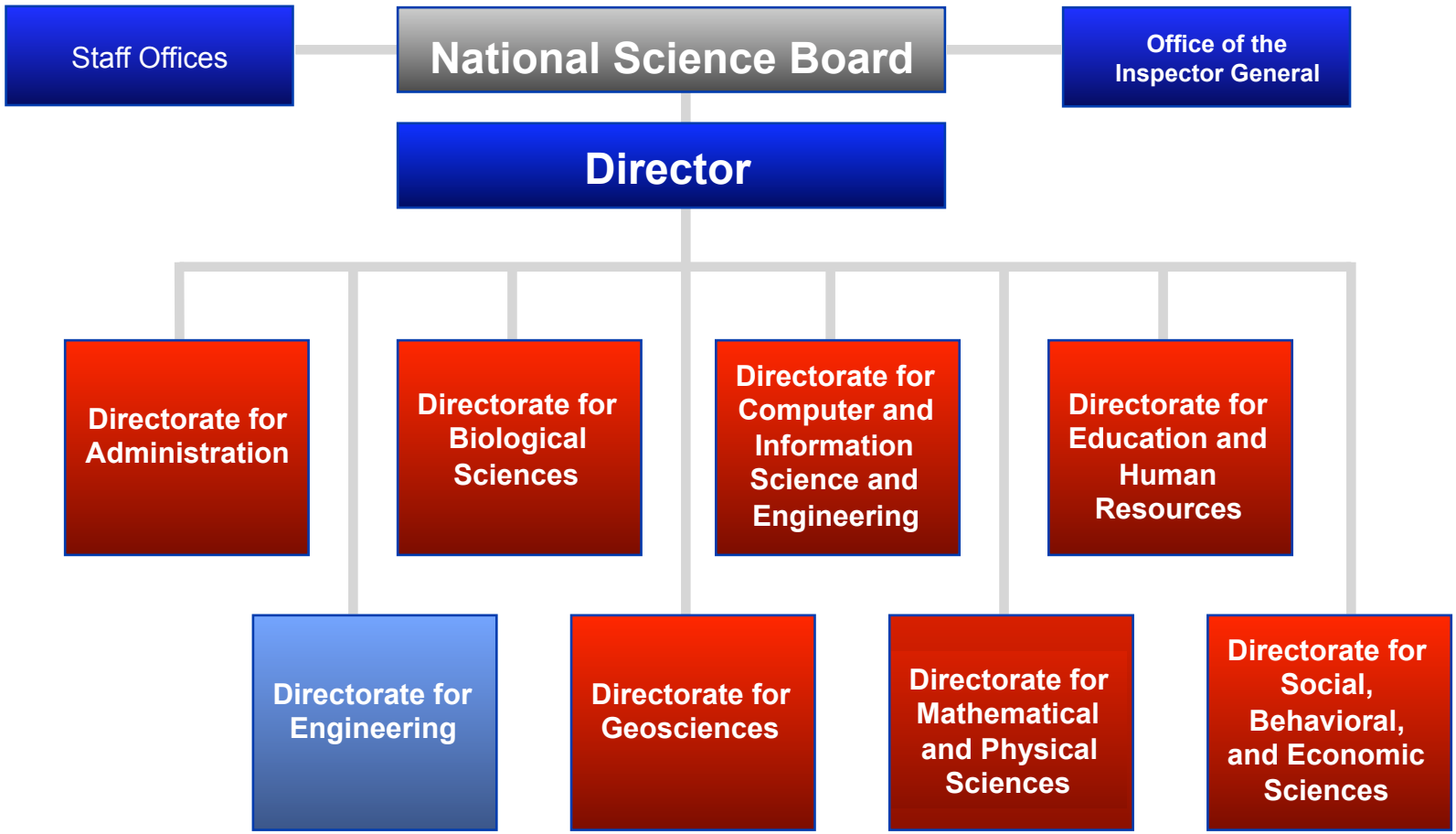
NSF does not support applications studies

Your Funding Base

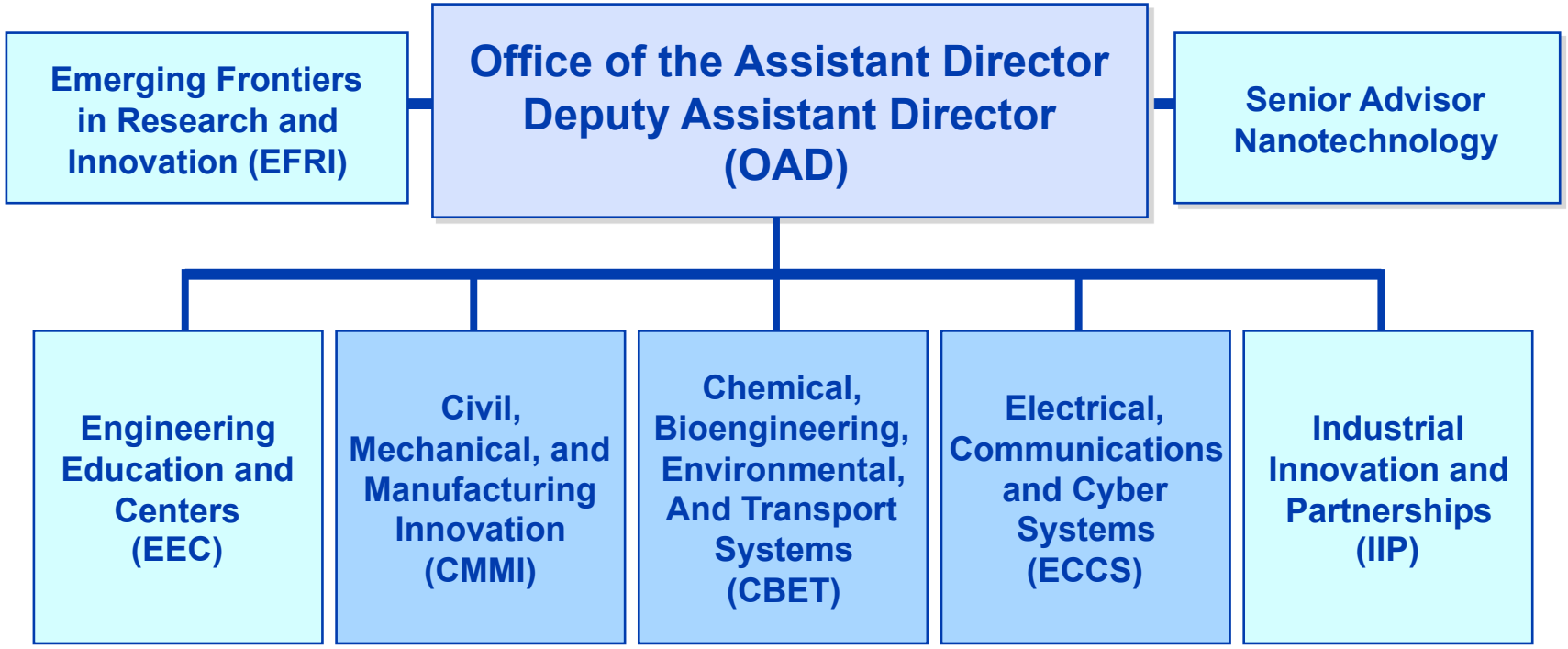
- NSF should not be the sole source of funding for your area of research
  - Internal support
  - State support
  - Industry support
  - Other Federal agency support

List the potential funding sources for your research area

NSF is Organized Around Research Topics



ENG Organization



The Next Step

- Look up NSF's web site: www.nsf.gov
  - Check out research programs, read what research topics they support
- Then call the appropriate program officers
  - Be prepared to answer the question: "What is your research objective?" (25 words or less)

NSF does not support applications studies

Should I Meet My Program Officer?

- Why? What do you intend to gain?
- Or is your goal to schmooze? (It doesn't help)
  - Don't even think about taking your program officer to lunch
- If you decide to meet:
  - Be prepared to listen (you don't learn by talking)
  - Be prepared with questions
  - Remember, the program officer is not the panel
  - You can get a free trip to NSF (more later)

Important Questions

- Does my research objective fit well with your program?
- What is your funding policy for CAREER awards? What is the maximum size of your CAREER awards? (Remember, the minimum is $400,000)
- How are proposals submitted to your program reviewed?

Questions You Shouldn't Ask a Program Director

- Is NSF interested in my topic?
- So, will you fund my research?
- Is this a good research topic?
- What research topic do you think I should work on?
- What are my odds?
- But this is my last chance, what can I do?
- If I send a copy of my proposal to you, will you help me edit it?
- Do I have a brain?

Catch 22

- My research doesn't fit in any single NSF program, how about joint submission/review?
  - Did you formulate a clear research objective?
  - Is your research objective too broad?
  - Do you want to consider focusing your scope?
- Suppose my research really does span multiple programs?
  - Contact all relevant program directors

How Could a Meeting Help?

- Your program director can:
  - Give advice on proposal submission
  - Help you understand the review of a previous proposal
  - Point you to resources you can use to help write a better proposal next time
  - Give general guidance on good proposal writing
  - Give you ideas for collaborations

Program officers look forward to constructive meetings with PIs

Could a Meeting Help?

Note - you learn by listening, not by talking. So shut up and listen.

Writing the Summary

Writing the Summary

- The most important statement is your statement of your proposed objectives
  - It should be at the very beginning
  - Do not begin with a weather report: "The sky is falling. Tools are breaking. Designs are failing…"
  - Do not begin with a state-of-the-union address: "It is imperative that the nation develop a strong manufacturing base…"
- Remember, this is not a tech paper, it is not a murder mystery (where we find out what the objective is on page 15)
- Don't forget the Intellectual Merit and Broader Impact statements

The Summary Page

- First paragraph
  - My long-term research goal is…
  - In pursuit of this goal, the research objective of this CAREER proposal is…
  - The research approach is…
- Second paragraph
  - My long-term educational goal is…
  - In pursuit of this goal, the educational objective of this CAREER proposal is…
  - The educational approach is…
- Third and fourth paragraphs - use headings
  - Intellectual Merit
  - Broader Impact
- Anything else *will* lower your rating

What We Want to Know

- What are your research and educational objectives?
  - This is what directs your proposal to the appropriate program
- What is your approach?
  - Outline — just a few sentences
- What is the specific research contribution you will make to the knowledge base (the intellectual merit)?
- If successful, what will be the benefit to society (the broader impact)?

Remember

- Your proposal will be returned without review if, in your Summary:
  - You fail to include explicit statements of intellectual merit and broader impact (entitle them Intellectual Merit, Broader Impact - this is not a time for creativity)
  - The font is too small
  - The margins are too narrow
  - The summary exceeds one page
  - Or if you fail to follow any GPG requirement
- We are no longer lenient – equity demands that we treat everyone the same

The Rest of Your Proposal

- The next 15 pages of your proposal give backup and detail to your summary
- Start with a restatement of your goals and objectives, clarify them, and provide a plan to accomplish them
  - Task statements should actually detail the tasks needed to accomplish your objectives
- Restate and provide detail on your intellectual merit and broader impact

This is a good time to put forth your best effort

Tips on Proposal Writing

- Use only 12 point type (approved fonts only)
- Do not use figures or tables as filler - everything should contribute
- Everything should be legible - do not use 2-point type on figures or tables
- Be sure to explain exactly what is your contribution to the knowledge base
- Use only the required format
- Be sure to include intellectual merit and broader impact statements in the body of the proposal

Tips on Proposal Writing

- Don't include letters of collaboration if
  - They aren't letters of collaboration
  - Multiple letters are identical
  - They are letters from previous proposals
  - They are letters of recommendation
  - They are more than one page in length
- Don't cut and paste together your new proposal from old declined proposals
- Submit your proposal early, download it, proofread it and correct it if necessary before the deadline

Mentoring for Postdoctoral Researchers

- All proposals submitted after April 6, 2009, that include funding to support postdoctoral researchers must include as a supplementary document a 1-page description of the mentoring activities that will be provided for such individuals.
- Mentoring activities may include:
  - Career counseling;
  - Training in preparation of grant proposals;
  - Publications and presentations;
  - Guidance on ways to improve teaching and mentoring skills;
  - Guidance on how to effectively collaborate with researchers from diverse backgrounds and disciplinary areas; and
  - Training in responsible professional practices.

Mentoring for Postdoctoral Researchers (Cont'd)

- Proposed mentoring activities will be evaluated as part of the merit review process under the Foundation's broader impacts merit review criterion.
- Proposals that do not include a mentoring plan *will be returned without review*.

Follow the NSF Guidelines

- Proposal & Award Policies & Procedures Guide (PAPPG)
  - Grant Proposal Guide (GPG)
- Program Solicitation
- Budget guidelines

Grant Proposal Guide (GPG)

- Provides guidance for preparation and submission of proposals to NSF;
  - Allowable fonts, margins, page limits, bio format, etc.
  - Process for deviations from the GPG (there will be none)
  - Process and criteria by which proposals will be reviewed
  - Reasons why a proposal may be returned without review
  - Reconsideration process
  - Process for withdrawals, returns & declinations
  - Award process and procedures for requesting continued support
  - Budget line item definitions
  - Process for submission of collaborative proposals (subawards and multiple proposals)

www.nsf.gov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National Science Board STEM Education Recommendations for the Obama Administration
New Proposal and Award Policies and Procedures Guide Available, Effective January 5, 2009.
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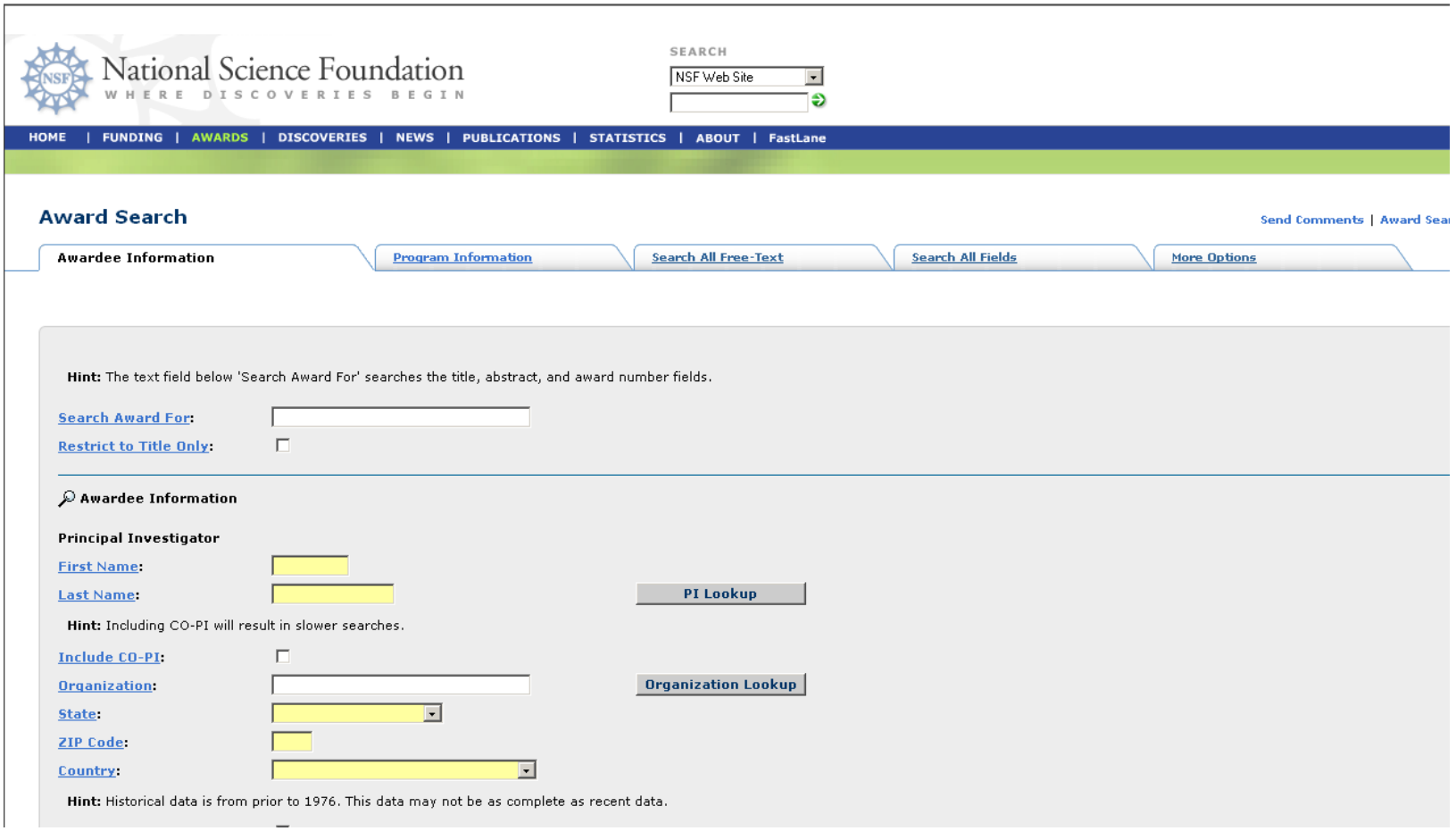
Search on GPG

Award Search Capabilities



Award Data

Search Awards

Recent Awards

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About Awards

How to Manage Your Award

Grant Policy Manual

Grant General Conditions

Cooperative Agreement Conditions

Special Conditions

Federal Demonstration Partnership

Policy Office Website

NSF Org:	CMMI Division of Civil, Mechanical, and Manufacturing Innovation
Initial Amendment Date:	January 23, 2006
Latest Amendment Date:	July 24, 2007
Award Number:	0606586
Award Instrument:	Standard Grant
Program Manager:	George A. Hazelrigg CMMI Division of Civil, Mechanical, and Manufacturing Innovation ENG Directorate for Engineering
Start Date:	February 1, 2006
Expires:	January 31, 2008 (Estimated)
Awarded Amount to Date:	$200000
Investigator(s):	Ibrahim Jawahir jawahir@engr.uky.edu (Principal Investigator) Oscar Dillon (Co-Principal Investigator) Carl Eberhart (Co-Principal Investigator)
Sponsor:	University of Kentucky Research Foundation 201 Kinkead Hall Lexington, KY 40506 859/257-9420
NSF Program(s):	MANUFACTURING & CONST MACH EQP
Field Application(s):	0308000 Industrial Technology
Program Reference Code(s):	MANU, 9237, 9150, 9146, 083E, 082E
Program Element Code(s):	1468

Award Abstracts

ABSTRACT

The research objective of this Small Grant for Exploratory Resesrch (SGER) is to develop a mathematical model for predicting, simulating and animating the cyclic chip formation process in metal machining. This study involves the use of topological properties in the development of new analytical and numerical models for multi-scale (micro, meso and macro) cyclic chip formation process in machining with coated grooved tools. By applying these methods, a systematic analysis will be made to establish the major influencing parameters of product life and product quality in cutting tools and the machined products. Through continued simulation of the chip formation process, and refinement of these models, a combined hybrid predictive model will be developed for predicting machining performance in terms of tool-life and surface integrity, and for simulation and animation of cyclic chip formation involving chip curl and chip breaking using topological changes of the work material in the machining region. Topological classifications of the machined and cutting tool surfaces will be made by taking account of progressive tool-wear and its effects. Experiments will be conducted for validating the predictive model.

If successful, this research will open new opportunities for better modeling of other complex manufacturing processes. This new predictive capability and the related product life predictions and enhancement will bring in significant productivity improvement in machining process planning and operations. This novel aspect has far reaching benefits including technology transfer/applications in industry. This project will contribute to the educational mission of the university by providing additional knowledge in this subject area to two students: one graduate student and one undergraduate student. This project will stimulate these engineering students' interest in topology and its applications. This project will also benefit students from underrepresented groups.

Intellectual Merit and Broader Impact Statements

IM and BI Statements

- They are required
- Your proposal will be rated based on them
- But:
  - What are they?
  - What should you include?
  - How should they shape your proposal?

Intellectual Merit

- The Intellectual Merit is the contribution that your research makes to the knowledge base
- Questions:
  - What is already known?
  - What is new?
  - What will your research add?
  - What will this do to enhance or enable research in your or other fields?
- Why is your research important for the advancement of your field?

Broader Impact

- The Broader Impact focuses on the benefit to society at large as a result of your research result
- Means to benefit society include:
  - Economic/environment/energy
  - Education and training
  - Providing opportunities for underrepresented groups
  - Improving research and education infrastructure

The key issue is how your research results will be applied — why would the general public care?

Summary Template

My research goal is… In pursuit of this goal, the research objective of this CAREER proposal is to test the hypothesis that the propensity of a tree to break is directly proportional to how many monkeys are in the tree. The approach will be to take a sample of ten trees and load them with monkeys until they break…

My educational goal is… In pursuit of this goal, the education objectives of this CAREER proposal are… The approach to accomplishing these objectives will be…

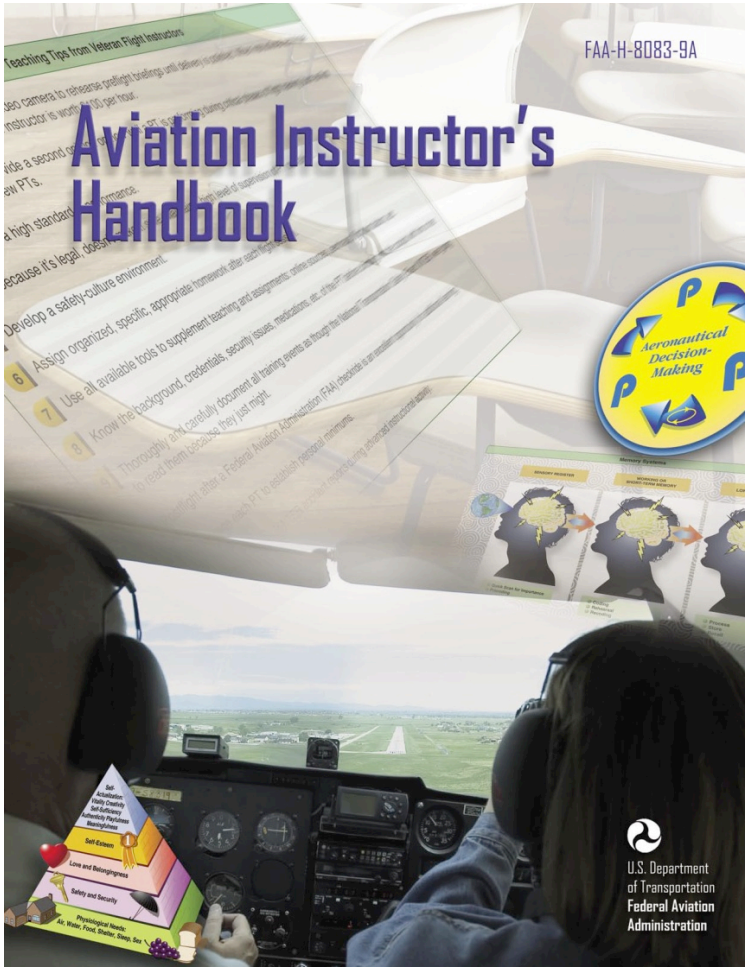
Intellectual Merit – It is important that we know how many monkeys can climb a tree before it breaks because this affects our perceptions of monkey procreation and… The Snerd Theory holds that tree size limits monkey procreation. This study challenges that theory with the notion that… If the objective hypothesis is correct therefore, it will transform our approach to…

Broader Impact – Monkeys are used in medical research. By knowing how many monkeys can fit in a tree, we will be able to provide more monkeys for such research thereby advancing medical science more quickly and improving the quality of life. Also, by watching the monkeys get hurt when the tree breaks, graduate students will be less likely to climb trees, thereby increasing their probability of graduating.

Education

- Undergraduate
  - Curriculum
  - Projects (REUs)
- Graduate
  - Curriculum
  - Conferences
  - Involvement with industry, national labs
- Networks, partnerships
- K-12 outreach (RETs)
- Museum projects
- Should not be a boiler plate, pick and choose

Education—a Reference



You can download this document for free from:

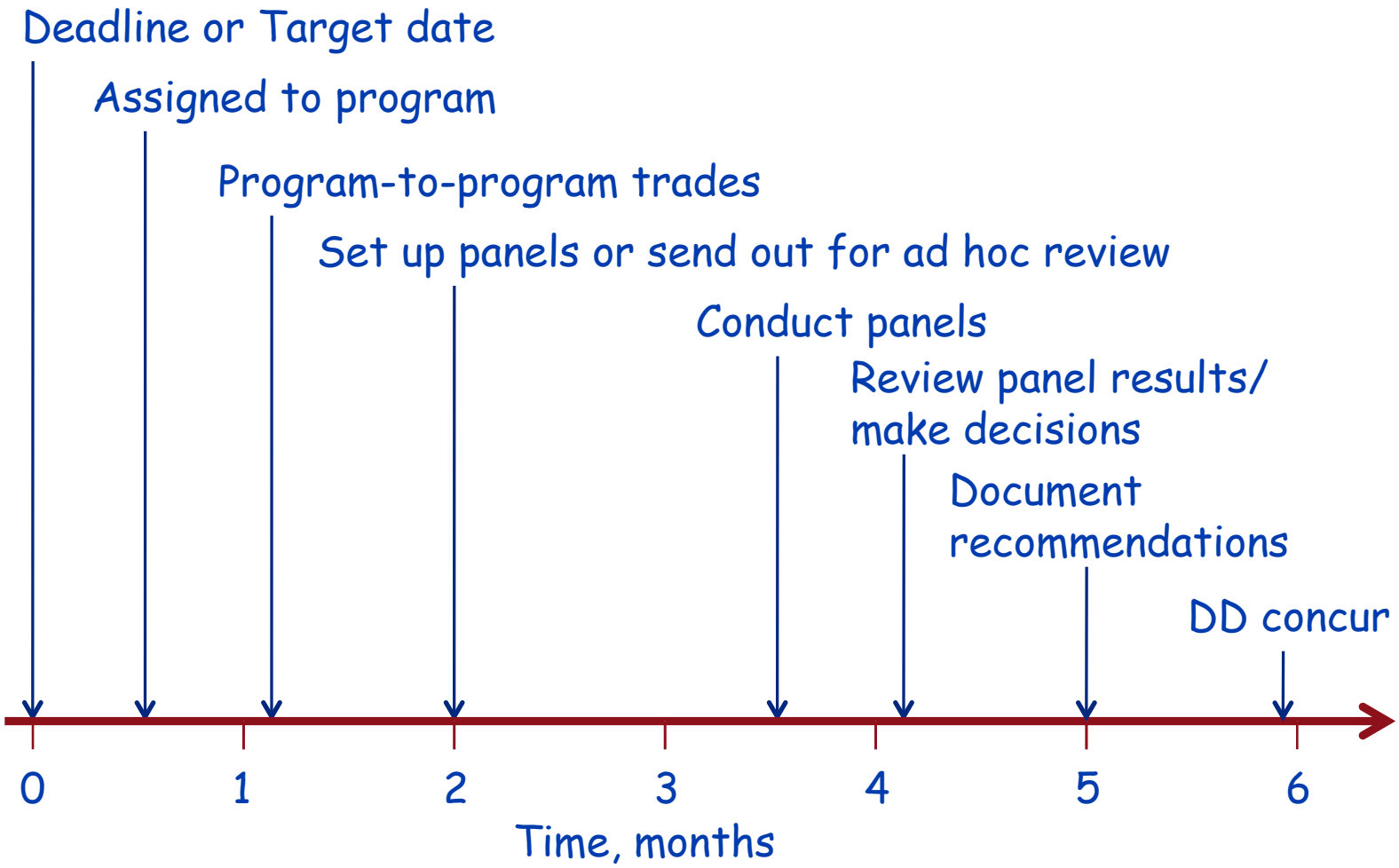
http://www.faa.gov/library/manuals/aviation/aviation_instructors_handbook/media/FAA-H-8083-9A.pdf

Caution

Your goals, objectives and approach should drive the proposal, not the need for Intellectual Merit and Broader Impact statements.

The NSF Merit Review Process

Proposal Processing Timeline



Merit Review

- Process: ad hoc only, panel only, combination
- Reviews obtained from non-conflicted experts—at least three required, more typical
- Ad hoc only: PD makes funding recommendation to DD
- Panel: Panel makes recommendation to PD, PD makes funding recommendation to DD
- DD concurs on recommendation—end of process for declinations
- DGA makes an award

Ethics

Breach of Ethics

- People who submit proposals to the Federal Government (e.g., to NSF) are held to high standards
- A breach of ethics can lead to
  - Being barred from submitting proposals
  - Fines
  - Jail time
  - Really being on the outs with your institution – getting fired, losing tenure
- Violation of some ethics laws is a felony

Forms of Misconduct

- Plagiarism - material copied without citation and quotation - if you copy it, cite it and off-set it; if you accept an award based on a proposal that includes plagiarism, you may have committed a felony
- Charge for work already done - can be a felony, do not charge twice for the same work
- Falsification of data and reports - changing data or results - be honest in all your annual and final reports and papers
- Fabrication - making stuff up - report only what is true and accurate

Actual PI Responses

- "It's only a proposal. It's not like it's a publication."
- "The reviewers are smart enough to know what is my work and what is someone else's."
- "My English teacher told me it's not plagiarism if I change every seventh word."
- "It's not plagiarism; it's just bad citation."
- "It got funded before."
- "I didn't have space for all the citations."
- "I didn't do it. My grad student/ undergraduate/ postdoc/grant writer/faculty colleague/secretary/ Co-PI/SRO/AOR/VP of Research/Dean/spouse wrote that section."
- "It was 'an act of lamentable carelessness' and therefore not misconduct."
- "Severe acid reflux."

Examples

- False charges
  - Never pad travel
  - Never commingle funds
    - » Don't mix business and pleasure expenses
    - » Don't mix grant funds and personal business expenses
  - Never charge for time not spent on a grant
  - Never bill items to your grant that shouldn't be billed to the grant
  - Never bill alcohol or entertainment to a grant
  - Never charge give-aways to a grant

Examples, continued

- Breech of confidentiality - never divulge confidential information
  - Ideas conveyed in proposals
  - Names of panelists
  - Names of PIs
  - Never use information that you received in confidence

Plagiarism is bad, plagiarism from a proposal you reviewed is a breach of confidence—much worse

Recommendation Letters

- It is against the law for an employee of the Federal Government to represent a third party to the Government
- That means it is illegal for a Government employee to write a letter of recommendation for you
- Don't ask – many Government employees don't know this law, you can get them into a lot of trouble
- PS: Recommendation letters are not permitted in a CAREER proposal

Ethics Training

- It is highly recommended that you give your student researchers training in ethics - this protects you in an event of their indiscretion
- Do it with all your students
- Do it before they have a chance to do something bad
- Ask them to sign a letter of recognition that you have provided ethics training, that it covers specific elements of ethics, and that they know that you expect appropriate behavior

Sticky Issues

- You collaborate with a senior faculty person to write a proposal
- You get an award
- You later find that your collaborator plagiarized materials that are in the proposal
- You should
  - Consult with your institutional ethics person
  - Report the matter to the NSF Inspector General
  - Continue to work on the grant
- You will not be held accountable for another faculty member's bad behavior

Reference

- OMB Circular A-110

CIRCULAR A-110
REVISED 11/19/93
As Further Amended 9/30/99

TO THE HEADS OF EXECUTIVE DEPARTMENTS AND ESTABLISHMENTS

SUBJECT: Uniform Administrative Requirements for Grants and Agreements With Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations

1. Purpose. This Circular sets forth standards for obtaining consistency and uniformity among Federal agencies in the administration of grants to and agreements with institutions of higher education, hospitals, and other non-profit organizations.

2. Authority. Circular A-110 is issued under the authority of 31 U.S.C. 503 (the Chief Financial Officers Act), 31 U.S.C. 1111, 41 U.S.C. 405 (the Office of Federal Procurement Policy Act), Reorganization Plan No. 2 of 1970, and E.O. 11541 ("Prescribing the Duties of the Office of Management and Budget and the Domestic Policy Council in the Executive Office of the President").

3. Policy. Except as provided herein, the standards set forth in this Circular are applicable to all Federal agencies. If any statute specifically prescribes policies or specific requirements that differ from the standards provided herein, the provisions of the statute shall govern.

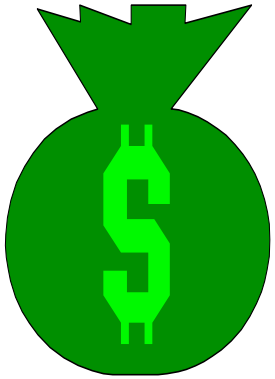
The provisions of the sections of this Circular shall be applied by Federal agencies to recipients. Recipients shall apply the provisions of this Circular to subrecipients performing substantive work under grants and agreements that are passed through or awarded by the primary recipient, if such subrecipients are organizations described in paragraph 1.

Parting Thoughts

Remember, if your grad student writes your proposals, you are responsible for their content, and you are the person in trouble if there is a breach of ethics

You have worked hard to establish your career, don't ruin it by a breach of ethics

Supplements



Beyond the Award

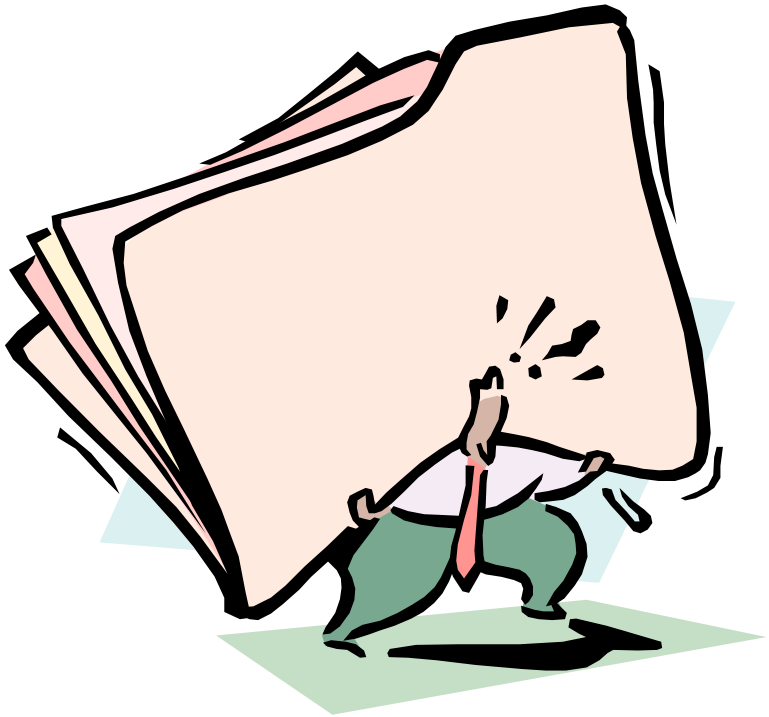
- Beyond the award there are supplements
  - REU (Research Experience for Undergraduates): $6,000 per year per student, nominally one student per award (two, provided one is from an under-represented group), does NOT include equipment
  - RET (Research Experience for Teachers): $10,000 to involve a K-12 teacher in your research
  - Initiating international collaborations (Office of International Science and Engineering)
  - Informal education (EHR)

Supplemental Requests

- Contact your program director first!
- Must be submitted via FastLane
- Must include a budget
- Should be submitted early in the fiscal year (while we still have money) or to meet announcement deadlines

Don't even think about asking for a supplement if you're not up to date on your progress reports

Progress/Final Reports



Annual Reports

- Annual reports are required for ALL grants (standard or continuing)
  - This includes: unsolicited, CAREER, MRI, special initiatives, …
  - This includes grants that are beyond their initial active period, i.e., grants that are in a no-cost extension period
- Annual reports must be submitted via FastLane 90 days PRIOR to anniversary (or by May 1st, whichever is sooner, for continuing grants)
- Annual reports MUST be submitted in the order in which they are due as they build upon previous report(s)

Annual Reports

- No annual report = no increments, no supplements, no no-cost extensions, no new awards (for PIs or Co-PIs)
- Be sure to use FastLane format — pdf attachments are ok
- REU supplement during reporting period - make sure to report activity under role of Research Experience for Undergraduates in PARTICIPANT section (this is different than role of undergraduate student)

Final Reports

- All grants require a final report
- All final reports must be filed using FastLane
- Final reports are due not later than 90 days after the expiration date of the grant
- You must use the FastLane format
- PENALTY!!! You cannot get another grant or a supplement if you or a co-PI have an overdue final report
- Warning – the grant is over when the final report is approved

Warning!!!

NSF money is good for six years. After that, it turns into a pumpkin – plan to spend all money within six years.

Getting Involved

Be A Reviewer

- Proposal review is an important service to your community
- There's no better way to see how the system works
- There's no better way to understand what makes a winning proposal
- If you think the system is unfair, try being part of it

How to Volunteer

- Contact your program director
- E-mail a brief (1-page) bio to your program director
- Be sure to include your contact information
- Indicate your areas of expertise

This will get you an expense-paid trip to visit your program director

12 Steps to a Better Proposal

1. Know yourself - strengths/weaknesses
2. Know the program from which you seek support
3. Read the program announcement and GPG
4. Formulate clear and appropriate research and education objectives
5. Develop a viable plan to accomplish your state objectives
6. State your objectives up front in your proposal
7. Frame your project around the work of others

12 Steps to a Better Proposal

8. Grammar and spelling count
9. Format and brevity are important
10. Know the review process
11. Proof read the proposal before you submit it
12. Submit your proposal early and proof read it after you submit it

Writing a good proposal takes common sense and effort—it's not magic

Questions

- It's always better to ask before you submit a proposal than after you get the reviews
- Remember, we're from the government, and we're here to help

http://www.nsf.gov