How to get NSF to Support Your Research

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Outline

Basics of NSF
NSF
- Current realities
- Trends and opportunities
Review Process
How to get your dreams fulfilled
**Why go to NSF?**

- NSF provide grants (not cooperative agreements or contracts)
- NSF pays full overhead
- NSF supports curiosity-driven research

**NSF in a Nutshell**

- Independent Agency
- Supports basic research & education
- Uses grant mechanism
- Low overhead; highly automated
- Discipline-based structure
- Cross-disciplinary mechanisms
- Use of Rotators/IPAs
- National Science Board
NSF’s future?

- Long-term broad support (doubling authorization passed)
- NSF exempted from “freeze”
Key Documents

- Grant Proposal Guide (January 2010)
- When in doubt -

Sources of Information

- Web: www.nsf.gov
- National Science Foundation Update (formerly MyNSF)
- Grant Proposal Guide
- Program Officer(s)
- Colleagues*
Trends

- Increasing inter-directorate cooperation
- Increasing support for interdisciplinary projects
- Support for environmental research

Interdisciplinary Opportunities

- Standard Proposals with a Co-Review Request
- Program: Dynamics of Coupled Human and Natural Systems
- Incentive: Environment, Society, and Economics
- Continuing “climate research initiative”
Dynamics of Coupled Human and Natural Systems

- First permanent multi-directorate program
- GEO has joined BIO and SBE
- $2,000,000 awards

Two Criteria for Funding

- Intellectual merit
- Broader impacts
Intellectual Merit?

- NSF funds basic research
- Intellectual merit means increasing knowledge through developing and examining basic theories or methods

Broader Impacts

- Promote teaching, training and learning
- Broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)
- Enhance the infrastructure for research and education, such as facilities, instrumentation, networks and partnerships
- Disseminate results broadly to enhance scientific and technological understanding
- Benefit society
Start with http://www.nsf.gov

- Check previous program awards
- Award Search: http://www.nsf.gov/awardsearch/
- Read RFA carefully (if not standard competition)
- Download Grant Proposal Guide

Timing of Proposal Submission

- No deadlines
- Submission windows
- Deadlines
- Preliminary proposals
- Target dates
Sections of an NSF Proposal

- Cover Sheet
- Project Summary (one page)
- Table of Contents
- Project Description (15 pages max)*
- References Cited
- Biographical Sketch(es)*
- Budget
- Current & Pending Support
- Facilities, Equipment & Other Resources
- Special Information & Supplementary Documentation*

Put Together the Proposal

- Identify intellectual merit (theoretical contribution)
- Describe in as much detail as possible exactly what you want to do
- Make sure your research team has appropriate capabilities
- Describe broader impacts
- Decide where to submit (co-review?)
- E-mail or call appropriate program officer with specific questions
Budgetary Guidelines

Amounts
- Reasonable for work - Realistic
- Well justified - Needs are established
- In-line with program guidelines

Eligible costs
- Personnel (2 months max)
- Equipment
- Travel
- Participant Support
- Other Direct Costs (including subawards, consultant services, computer services, publication costs)

Getting Support in Proposal Writing

NSF Publications
- Program Announcements/Solicitations
- Grant Proposal Guide
- Web Pages
- Funded Project Abstracts
- Reports, Special Publications

Program Officers
- Incumbent
- Former “Rotators”

Mentors on Campus

Previous Panelists

Serve As Reviewer

Sponsored Research Office

Examples of Successful Proposals
Faculty Early Career Development Program--CAREER

- Highly competitive ("walk on water") for SBE
- Not the “bar exam” model
- Serious education component
- Not team project
- 5-year, $400K
- RFA under review

Rapid Response Research (RAPID)

- $200,000 maximum, 1-year awards
- Urgent as data are ephemeral
- 5-page project description
- Quick turnaround review
- Contact Program Officer before submitting
**EARly-concept Grants for Exploratory Research (EAGER)**

- Untested, but potentially transformative ideas (high-risk, high-payoff)
- $300,000 maximum and up to 2 years
- Eight page project description
- Quick turnaround review
- Contact Program Officer before submitting

**Review Process (DRMS)**

- Receive the jacket
  - Subject appropriateness review
  - Compliance check
- Request reviews
  - Six *ad hoc*
  - Two panel members
- Panel(s) recommendation(s)
- Program Officer funding decision
Doctoral Dissertation Improvement Awards

- Archaeology
- Cognitive Neuroscience
- Cultural Anthropology
- Decision, Risk & Management Science
- Geography & Regional Science
- Law and Social Science
- Linguistics
- Physical Anthropology
- Political Science

- Science and Technology Studies
- Societal Dimensions of Engineering, Science, and Technology
- Sociology
- Economics
- Human Cognition and Perception
- Methodology, Measurement, & Statistics

NSF Sources of Reviewers

- Program Officer’s knowledge
- References listed in the proposal
- Google
- Community of Science and other databases
- Reviewer’s recommendations
- Investigator’s suggestions
Funding Decisions

- Program Officer decision
- Feedback to PI
- Informal and formal notification
- Scope of work and budget discussions

Myths about NSF

- Only funds scholars at elite graduate institutions
- Only funds “famous” academics
- Once declined, you are likely always to be declined
- Only funds “normal science”
- Advisory committees make funding decisions
Reasons for Declinations

- “Trust-me” proposal
- Not feasible
  - Expertise gaps
  - Insufficient funding
  - Too ambitious
- Incremental contribution
- Bad luck

NSF vs. NIH

- NSF tends to be smaller
- NSF is more open to risky, exploratory, paradigm-challenging work
- NSF stresses basic research
- NSF has no scoring system, percentile system
- NSF program officers make funding decisions
- NSF uses “revision encouragement” loosely
Advice

- Learn to love rejection
- Team up
- E-mail or call Program Officer with specific questions
- Encourage dissertation improvement grant proposals (check program first)

Useful to submit even if declined

- Revise and resubmit
- Discover other funding sources
- Forces thinking
- Build relationships
- Receive reviews from experts
QUESTIONS??

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