INSIGHTS FROM A FORMER NSF PROGRAM DIRECTOR

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PRESENTATION

- Overview of NSF
- Searching for Information
- The Review Process
- Preparing Competitive Proposals
Established as an independent agency (NSF Act of 1950), governed by the National Science Board

Organized into discipline-based Directorates and Offices; Special responsibilities: Antarctic Program, Science and Engineering Indicators, International Science

Budget: 6.9 billion (FY10); 7% percent incr.

Makes 10,000 new awards from > 40,000 submissions with approx 25% success rate

Supports ~200,000 faculty, researchers, fellows, students

Uses rotators, visiting scientists, IPAs
TYPES OF PROPOSAL SUBMISSION

Solicited vs. Unsolicited

- Solicited proposals have a published Program Solicitation / Program Announcement
- Unsolicited proposals are associated with regular research programs (check websites and GTP)

- No deadlines
  (e.g. workshops, EAGERS)
- Deadlines
  - Target dates
  - Submission windows

- Solicited: Preliminary proposals or Letters of Intent
WHERE DO YOU SUBMIT YOUR IDEAS?

http://www.nsf.gov

Directorate → Division → Programs →
Information on NSF contacts, award abstract, program description, deadlines

Guide to Programs (GTP)

Grant Proposal Guide (GPG, Jan. 2010)

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PROGRAMS OF INTEREST

- Education and training
- Infrastructure
- Research
Two mechanisms: Sites and Supplements
Research training program for undergrads
Sites: Usually 10 weeks in summer for 10 students
Hands-on participation in research leading to presentations and publications

REU Sites Solicitation NSF 09-598
Due Date: August 25, 2010
UNDERGRADUATE RESEARCH AND MENTORING IN THE BIOLOGICAL SCIENCES (URM)

- Research training program for under-represented minority students
- Goal: increase the ethnic diversity of graduate students in PhD programs
- Year-round mentoring and enhancement activities
- Five-year awards, up to $1 million

Solicitation 06-591, Due Dates:
  Prelim--Third Tuesday in September
  Full--First Tuesday in March
Course, Curriculum and Laboratory Improvement (CCLI) NSF 07-543 Due Jan 13, 2010 (see web page)
- Supports creation of new learning materials and teaching strategies; or dissemination
- Conduct research on STEM teaching and learning
- Projects: Small exploratory projects → large comprehensive projects

Advanced Technological Education (ATE) NSF 07-530 Due Oct 2010?
- Supports curriculum development, faculty development
- Pathways from secondary schools to 2-yr colleges, and 2-yr to 4-yr institutions
- Improvement of instruction and better preparation of students for entry into high-tech jobs and into 4-yr institutions
MAJOR RESEARCH INSTRUMENTATION (MRI)

- Acquisition or development of major research instrumentation
- Maintenance and technical support associated with these instruments
- Proposals may be for a single instrument, a large system of instruments, or multiple instruments that share a common research focus
- Coordinated thru the Office of Integrative Activities (NSF-wide)
  - Emphasis must be on research

Deadline Date: Not available 1/19/10
RESEARCH OPPORTUNITY AWARDS (ROA)

- Provide support for faculty from PUIs to participate in ongoing, NSF-funded research projects for limited periods, usually a summer
- Goal -- Provide research experience for faculty to enhance research at home institution and host lab, improve research & teaching
- Funded as supplements to active NSF grants
  - Salary or stipend for undergraduate faculty
  - Travel to host lab and/or to attend a meeting
  - Research supplies
- Making connections with an NSF grantee:
  - Network at scientific meetings
  - Consult NSF FastLane list of awards in relevant program
  - Contact NSF Program Director in your area of interest (Consult the NSF web site for contact information)
Research Initiation Grants/
Career Advancement Awards (RIG-CAA) in the Biological Sciences

- Broaden the participation of scientists from under-represented groups
- Assist members to become actively engaged in research as independent investigators
- CAA: Targets scientists other than Beginning Investigators to enhance career development
- Improve competitiveness for research funds; Acquire new skills/tools for contemporary research
- Estimated Awards: 15 - 25, about $3 Million annually

Solicitation 07-560
Due Date: 2nd Monday in Jan
Research at Undergraduate Institutions (RUI)

- Designed to support Research in Predominantly Undergraduate Institutions (PUI)
- RUI is a mechanism, not a separate funding stream
- ~10% of proposals submitted to BIO research programs are RUIs
- “RUI” should be designated in the title of the proposal
- Five page (max) “RUI impact statement” must accompany proposal
Faculty Early Career Development Program (CAREER)

- Supports teacher-scholars who will become the academic leaders of the 21st century
- Supports plans that effectively integrate research and education
- Funding approx $100,000/year for 5 years (BIO; $400K other disciplines)

Solicitation 05-579
Due Date: July 20-22, 2010
Depending on Directorate
EARLY-CONCEPT GRANTS FOR EXPLORATORY RESEARCH (EAGER)

- Exploratory work in its *early stages* on untested, but potentially transformative, research ideas or approaches

- Replace *part* of SGER
  - “High Risk-High Payoff"
    - Radically different approaches, new expertise, or novel disciplinary or interdisciplinary perspectives

- Budget consistent with project scope and existing programmatic activities *(up to $300K for 2 years)*

Only one of the ways NSF supports potentially transformative research
MORE EAGER

- Program Officer approval needed: PI needs to convince appropriateness for EAGER submission Vs “regular” NSF proposals

- Require internal review/with optional external input

- 5-8 page project description

- No supplements – no-cost extensions: existing NSF policies
GRANTS FOR RAPID RESPONSE RESEARCH (RAPID)

- Rapid release of funds and expedited merit review
- Replace part of SGER
  - 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
MORE RAPID

- Budget consistent with project scope and existing programmatic activities (up to $200K for 1 year)
- Require internal review/with optional external input
- 2-5 page project description, otherwise GPG guidelines
- No cost extensions?/supplements -- existing NSF policies
THE REVIEW PROCESS
They are the most powerful members of our community. They have a shattering secret. A secret that will affect us all. Only one man is willing to stop them. On August 5, you'll know who they really are.

THE STAR CHAMBER
THE REVIEW PROCESS

- What happens to your proposal
- Two Review Criteria
**NSF Proposal & Award Process & Timeline**

1. **NSF Announces Opportunity**
2. **Institution submits via FastLane or Grants.gov**
3. **NSF Prop. Off.**
   - **Proposal Receipt at NSF**
   - 90 Days
   - **Proposal Preparation Time**
4. **MERIT REVIEW**
   - **Mail**
   - **Panel**
   - **Both**
   - 6 Months
   - **Proposal Receipt to Division Director Concurrence of Program Officer Recommendation**
5. **DD Concur**
   - 30 Days
   - **DGA Review & Processing of Award**
6. **Award**
   - Via DGA
7. **Decline**
8. **Organization**

- **Returned Without Review/Withdrawn**
Merit Review Criteria

**Criterion 1:** What is the *intellectual merit* of the proposed activity?

- *Creativity* and *originality* of ideas
- *Qualifications* of investigators
- Access to *resources*
- Established *expertise* or expert *collaborations*

**Criterion 2:** What are the *broader impacts* of the proposed activity?

- Potential to *advance field*
- Participation of *underrepresented groups*
- *Benefits to society*
PREPARING COMPETITIVE PROPOSAL

- Helpful tips
- What to do if declined
- How funding decisions are made
TIP #1. DO YOUR HOMEWORK

- Read the Program announcement/solicitation
  - Understand goals, eligibility, requirements
  - Research or teaching?
- Become familiar with program
  - Serve as a reviewer (ad hoc or on a panel)
  - Examine prior NSF awards in similar areas
  - Read successful proposals
- Talk with people:
  - Program Officers
  - Current or former “rotators”
TIP #2. WRITE WELL

- Start early (write and rewrite)
- Get critiques from:
  - Mentors/colleagues
  - Previous members of review panels
- Be aware of the scope:
  - “Too ambitious” vs. “Too narrow”
- Be honest and up-front:
  - Address issues instead of trying to hide them
  - Acknowledge possible experimental problems and have alternatives
TIP #3. **ANTICIPATE REVIEWER COMMENTS**

- Do not assume reviewer knows what you are thinking
- Simplify and streamline
  - Make sure you get your overall idea across!
- Pay attention to details:
  - Run “spell check” and proof-read
  - Prepare clear photos, graphs, etc.
  - Use allowed font size
- Be aware of reviewer fatigue
IF YOU HAVE TO RESUBMIT... AND YOU WILL

- Stay calm!
  - Take ten... breaths, hours, days
  - Examine the criticisms carefully

- When sarcastic thoughts fade, contact your program director
  - Email, call, or visit
  - Find out how to improve proposal

- Include a ‘Response to Reviewer Comments’ section in the resubmission
Program Director makes recommendations to the Division Director based on:

- geographic distribution
- type of institution
- PI demographics
- potential high payoff
Updates for NSF Opportunities

http://service.govdelivery.com/service/multi_subscribe.html?code=USNSF&custom_id=823