

Finding Funding: Spotlight on the National Science Foundation

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Session Overview

- Foundation and mission
- Structure and organization
- Find funding & search awards
- Special programs
- Preparing proposals
- Review process and decisions
- Upcoming WiSys events
- Questions and Answers

Founding of NSF

- Created by Congress in 1950
- Supports all fields of fundamental science and engineering
- FY 2021 budget of \$8.5 billion
- Funds 25% of all federally supported basic research
- FY 2020 funding success rate of 28%



Mission of the NSF:

- ✓ To promote the progress of science
- ✓ To advance the national health, prosperity, and welfare
- ✓ To secure the national defense

NSF by the numbers

- Total funding is approximately \$8 Billion
- 93% of the budget directly supports funding
- Receive 50,000 proposals a year
- Award 12,000 proposals
- Support 2000 institutions
- Support 350,000 researchers
- Fund research in all Science and Engineering disciplines
- Support STEM and education workforce
- Over 200 Nobel Prize winners

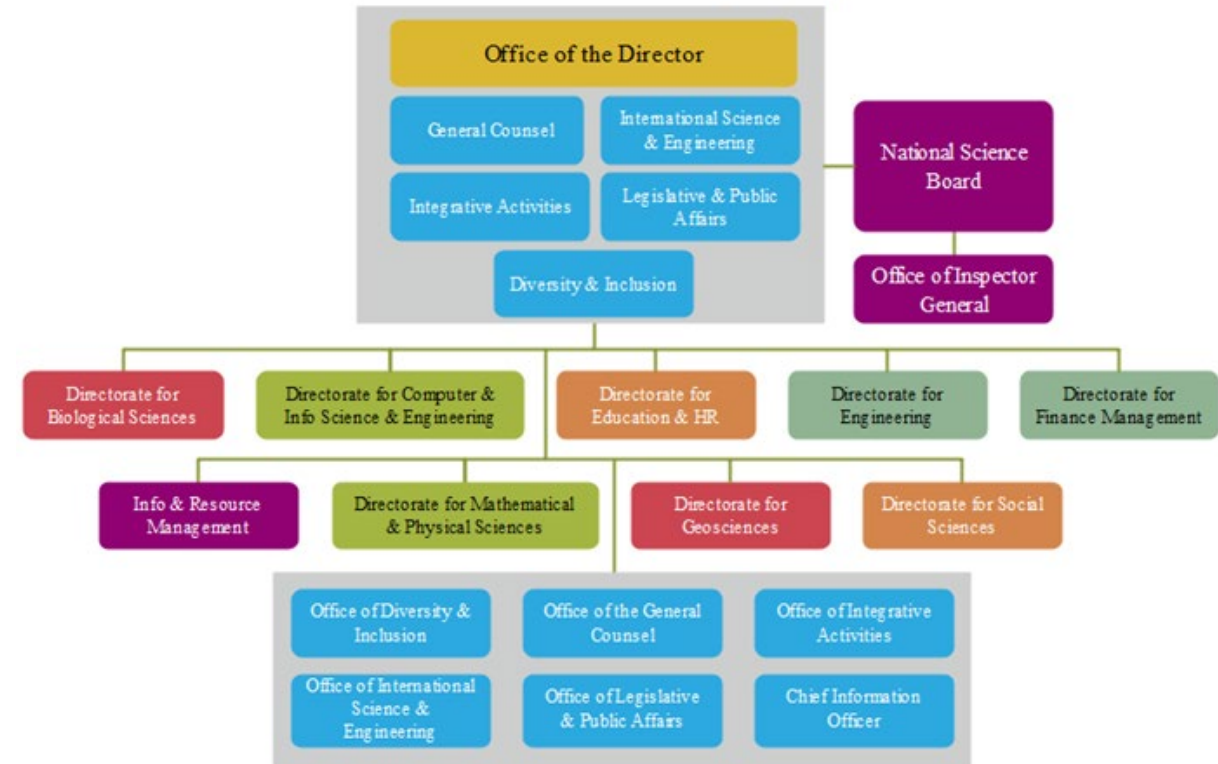


NSF organization

7 directorates and each directorate is divided into divisions and core programs

- Biological Sciences
- Computer and Information Science
- Engineering
- Education and Human Resources
- Mathematical and Physical Sciences
- Geosciences
- Social, Behavioral and Economic Sciences

U.S. National Science Foundation (NSF) Org Chart




Search for funding

- Search for funding on NSF website <https://beta.nsf.gov/funding/opportunities>:
 - Filter by Directorate
 - Filter by Division
 - Filter for Undergraduate Research
- You can also use grants.gov to find NSF funding opps as well as other federal agencies

An official website of the United States government [here's how you know](#)

Welcome to beta.nsf.gov, the new version of the National Science Foundation's (NSF) website. We're completely revamping our site and we're doing it in the open so you can check on our progress. [Learn more about the project](#)



 National Science Foundation

Science Topics ▾ News & Multimedia ▾ About NSF ▾ Funding & Awards ▾

Overview Fund Your Research ▾ NSF-Funded Projects ▾ Research Directorates & Offices ▾

[Home](#) / [Funding](#) / [Funding Search](#) Get NSF funding information by Email or by RSS.

Funding Search

All Fields ▾  

657 results [Export Results .csv](#)

This Funding Search contains only current opportunities. [Archived funding opportunities](#) are hosted at the legacy NSF website.

Please let us know what you think of the new search by completing a [three-question survey](#), or by emailing us at beta-nsf-feedback@nsf.gov



Filter:

Limited Submissions ▾ Award Type ▾ Advancing Diversity ▾

Directorate ▾ Division ▾ Education Level ▾

☐ Show only NSF-wide/cross-directorate opportunities (81)

Sort: Upcoming due dates ▾

| Award Type | Opportunity Details | Next Required Due Date |
|--|--|---|
| Standard Grant Continuing Grant Fellowship | <p>Program</p> <p>Centers of Research Excellence in Science and Technology</p> <p>The Centers of Research Excellence in Science and Technology (CREST) program provides support to enhance the research capabilities of minority-serving institutions (MSI) through the establishment of centers that effectively integrate education and research. MSIs of higher education denote institutions that...</p> <p> View Guidelines 18-509 Posted: October 30, 2017</p> | <p>Letter of Intent Deadline: December 2, 2022</p> <p> Additional Information</p> <ul style="list-style-type: none">✓ Letter of Intent Required✓ Preliminary Proposal Required✓ Additional Upcoming Deadlines |

Search awards

- <https://www.nsf.gov/awardsearch/advancedSearch.jsp>
- You can type in keywords and find awards and the program that funded them
- Find a match with a program
- Plan your budget

[Overview of Award Search Features](#)

Awardee Information

| | | | |
|---|----------------------|---------------------|----------------------|
| Principal Investigator First Name | <input type="text"/> | Organization | <input type="text"/> |
| Principal Investigator Last Name | <input type="text"/> | State | Select one ▼ |
| <input type="checkbox"/> Include Co-Principal Investigator in name search | | Zip Code | <input type="text"/> |
| | | Country | Select one ▼ |

Program Information

| | | | |
|-------------------------|--|---|----------------------|
| NSF Organization | Select one ▼ | HINT: The "Program" box searches both program element and program reference names and codes. | |
| Element Code | <input type="text"/> <input type="radio"/> Any <input checked="" type="radio"/> All | Program | <input type="text"/> |
| Reference Code | <input type="text"/> <input type="radio"/> Any <input checked="" type="radio"/> All | Program Officer | <input type="text"/> |

Additional Information

| | | | |
|---|---|---|--|
| Keyword | <input type="text"/> | HINT: Data prior to 1976 may be less complete. | |
| HINT: The Keyword field searches on the title and abstract only. | | <input checked="" type="checkbox"/> Active Awards <input type="checkbox"/> Expired Awards | |
| <input type="checkbox"/> Search Award Title Only | | Original Award Date | From <input type="text"/> To <input type="text"/> |
| Award Number | Select one ▼ From <input type="text"/> To <input type="text"/> | Start Date | Select one ▼ From <input type="text"/> To <input type="text"/> |
| Award Amount | Select one ▼ | End Date | Select one ▼ From <input type="text"/> To <input type="text"/> |
| Award Instrument | Select one ▼ | | |

Special Programs

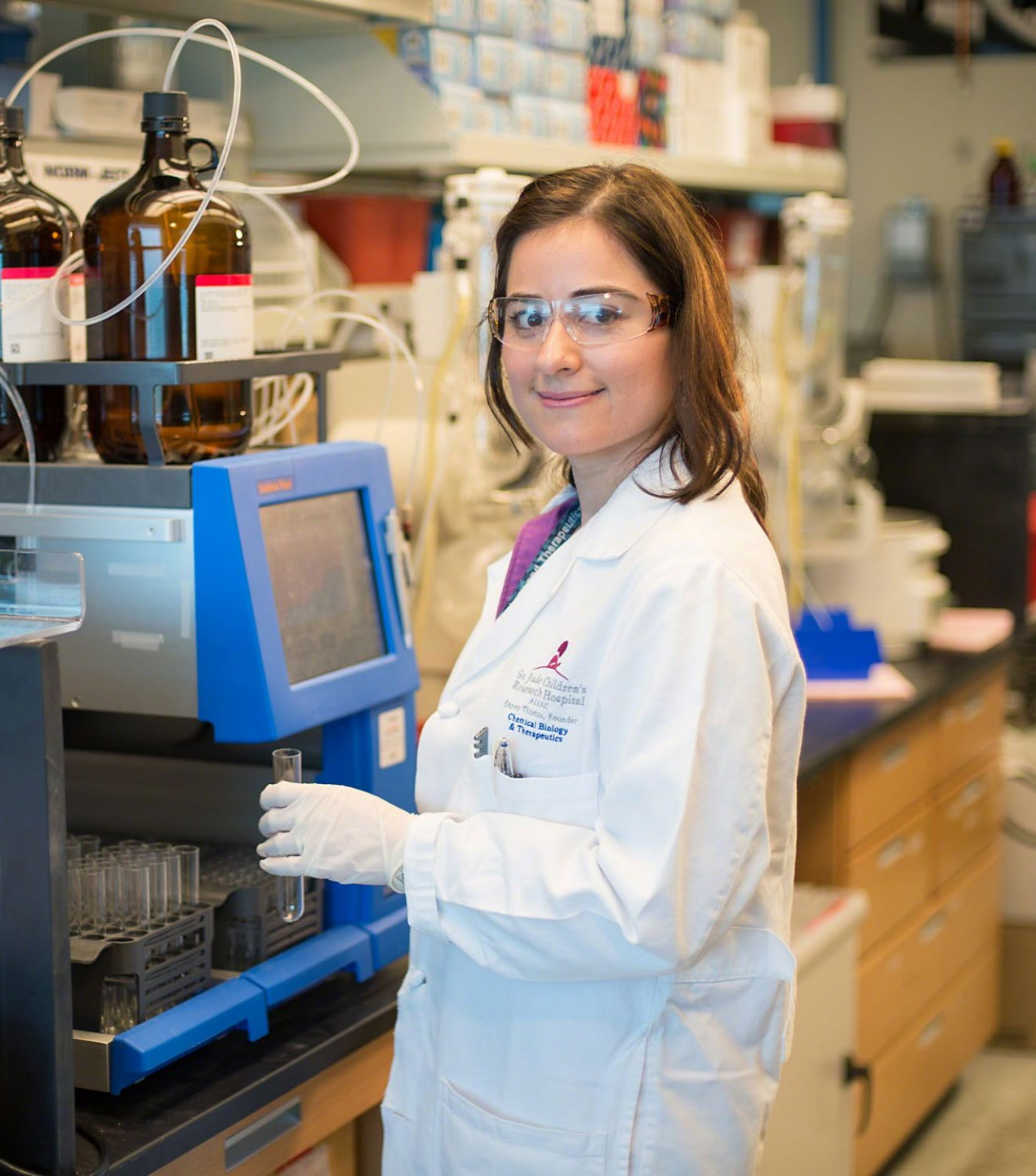
- Facilitating Research at Primarily Undergraduate Institutions (RUI) and Research Opportunity Awards (ROA)
- Research Experiences for Undergraduates (REU)
- Major Research Instrumentation Program (MRI)

Funding
Opportunity

Major Research
Instrumentation
(MRI) Program



Research Experiences
For Undergraduates



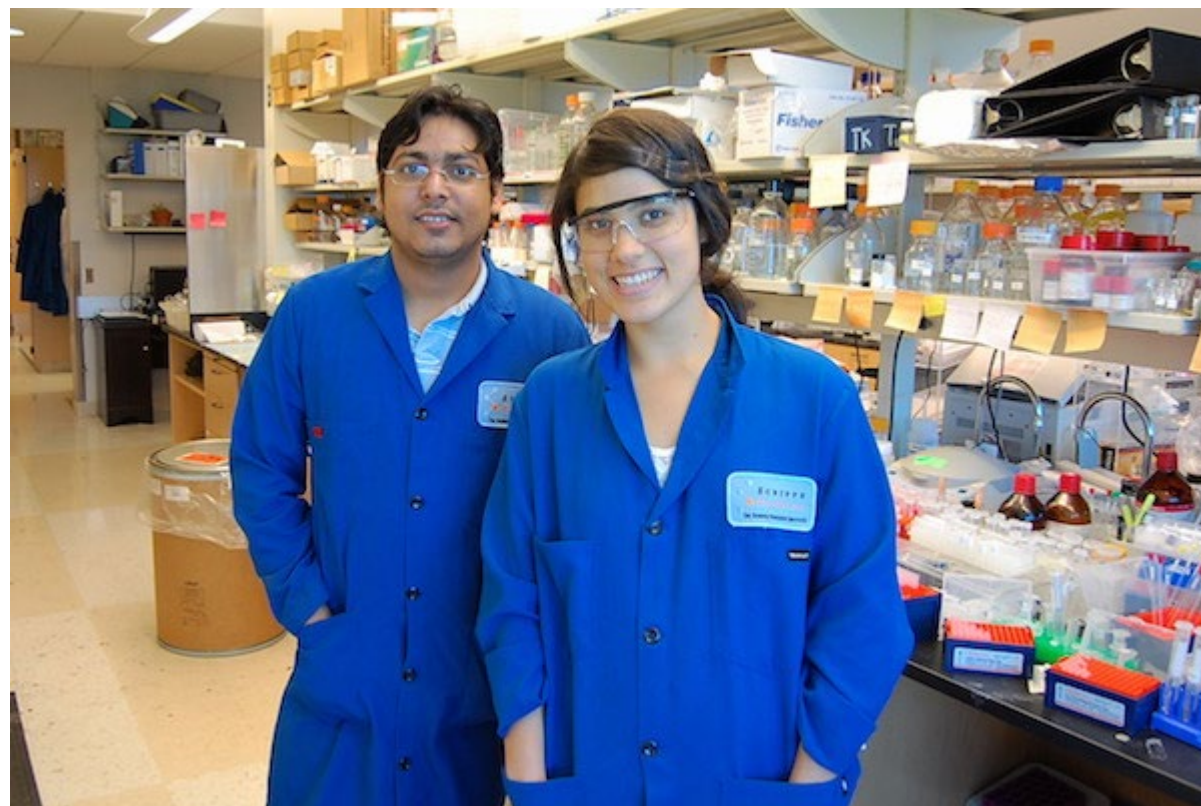
RUI and ROA

- Subject to individual program deadlines
- Individual or collaborative research project
- Involve faculty and students at own or other institutions
- May be a request involving shared research instrumentation
- Impact statement up to 5 pages



Research Experiences
For Undergraduates

- Sites and supplements
- Supplements typically provide support for 1-2 undergraduate students on a new or ongoing NSF-funded project
- Sites – a significant fraction of the students should come from outside the host institution



MRI

- Deadline in January
- Acquisition or Development
- \$100K - \$4M but PUI's can request under \$100K
- No cost-share required for PUI
- Limit on proposals per institution
- Additional required documents

Funding Opportunity

Major Research Instrumentation (MRI) Program



Contact Program Officers

- It is part of the PO job to talk to you throughout the proposal creation, submission and review process
- Be polite, prepared and patient
- Initiate contact by email
- Make a specific request
 - Reply by email
 - Chat by phone
 - In-person meeting
- Nudge again by email if you haven't heard back in about a week or so



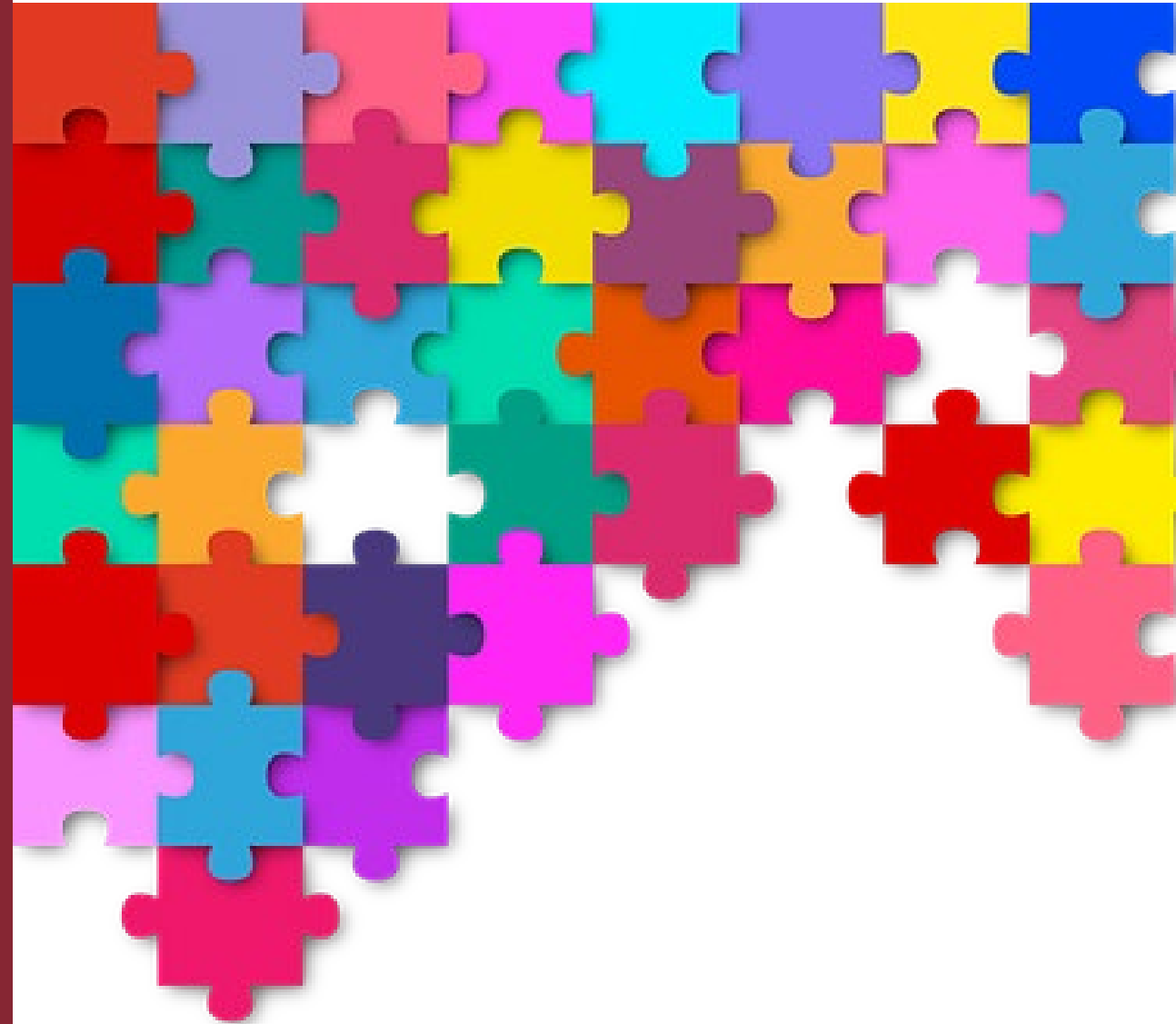
Proposal Preparation

- Fastlane is being phased out
- Use Research.gov
- Avoid grants.gov
- Collaborative proposals



NSF Proposal Components

- Project Description
- Summary
- References
- Biographical Sketch
- Current & Pending
- Collaborators & Other Affiliations
- Data Management Plan
- Facilities, Equipment & Other Resources
- Budget
- Budget Justification
- Letters of collaboration, if applicable



Project Description & References

- Usually 15 pages
- May be special requirements in the RFP
- Must include a section on Broader Impacts
- References are a separate attachment



Broader Impacts

Teaching, training, and learning (undergrads + grad students)

Broaden participation of underrepresented groups

Build or enhance partnerships (internationally, or with other agencies)

Broad dissemination to enhance scientific + technological understanding

Enhance infrastructure (labs, equipment, + work in developing countries)

Local impacts (policies @ state + local level)





Summary

- Maximum of one page in length
- Follow specific directions in the RFP
- Overview – description of activity and objectives and methods to be used
- Intellectual Merit – describe the potential of the activity to advance knowledge
- Broader Impacts – describe the potential of the activity to benefit society and contribute to the achievement of societal outcomes

Senior Personnel Documents

PI, CoPIs and all Senior Personnel:

- **Biosketch**
 - Limited to 3 pages
 - Professional preparation, appointments, products, and synergistic activities
- **Current and Pending**
 - To assess the capacity of the individual to carry out the research
 - To assess potential overlap/duplication
- **Collaborators & Other Affiliations**
 - To manage reviewer selection
 - Use provided Excel template
- **SciENCv: Science Experts Network Curriculum Vitae @**
<https://www.ncbi.nlm.nih.gov/sciencv>



Budget/Budget Justification

- The budget must fit the project
- Only request allowable expenses
 - Vary with solicitations
- Research equipment prices
- Consult with ORSP
 - Fringe benefit rates
 - Indirect cost rates
- Clearly justify each expense
- Research “typical” budgets for this division at
<https://www.nsf.gov/awardsearch/advancedSearch.jsp>



Data Management Plan

- Link to requirements at various divisions:
- [Dissemination and Sharing of Research Results | NSF - National Science Foundation](#)
- Plans for data management and sharing of products of research
- Limited to 2 pages



Facilities

- To assess the adequacy of the resources available to perform the effort proposed.
- Describe only those resources that are directly applicable
- Physical and personnel resources
- Describe resources in narrative form and do not include quantifiable information



Letters of Collaboration

- No letters of support
- Letter of collaboration template
- Reach out early for letters



Review Criteria

Intellectual Merit:

- Potential for advancing knowledge in/across fields
- Qualifications of the investigators
- Creativity and originality
- Organization of the ideas/experiments
- Access to resources
- Potentially transformative research?

Broader Impacts:

- Promoting teaching, training, and education
- Enhancement of infrastructure for research and education
- Community resources and outreach
- Participation of underrepresented groups
- Benefits to society

What makes a proposal competitive?

- Potential for high impact
- New, original ideas
- Focused, feasible project plan
- Articulated knowledge of subject area, published relevant work
- Experience in essential methods or approaches, and/or collaborator expertise
- Sound scientific rationale
- Realistic amount of work; sufficient detail; critical approach

Best Practices

- Start with a compelling introduction
- Convey the significance of your project
- Do your samples/data come from a place in the world? Include a map! Use figures wisely.
- Lay out a clear work plan and timeline
- Explain the role(s) for each participant
- Come up with a realistic budget

Common Mistakes

- Work is too close to what has been done before - i.e., an incremental advance
- Techniques and methodology are not cutting edge and/or not explained in sufficient detail
- Project has too large a scope or is too narrowly focused to be exciting or relevant
- Research plan will not actually achieve the stated goals of the project

Funding decisions

- Plan on a start date of at least 6 months after submission
- Deadline vs. no deadline



What to do if you're declined?

- It happens to everyone, except those who don't submit
- Stay calm, and don't get discouraged. Breathe deeply and read the reviews more than once
- Identify common themes across different reviews (weaknesses AND strengths)
- Don't fixate on minutia and cranky comments
- Ask a friend/colleague to read the reviews objectively



What if you're awarded?

- Celebrate!
- Read the reviews and/or panel summary: they still likely had useful criticisms and advice
- Credit the award and NSF when you publish or present
- Read NSF's guide for awardees and write your annual reports on time
- Develop good rapport with your Program Director and keep them updated
- Be a good mentor to the students and colleagues you support



Campus ORSP

- ORSP submits the proposal on behalf of the university
- Experts in getting proposal out the door
- Services
 - RFP translation
 - Budgets and budget justifications
 - Proposal component templates
 - Compliance review



Be an NSF Reviewer

- Gain firsthand knowledge of the peer review process
- Learn common proposal problems and discover strategies to write strong proposals
- Meet colleagues and program officers in your field



NSF Resource Center

- nspolicyoutreach.com/resource-center/
- Recordings of NSF presentations from previous grant conferences



WiSys Webinar Topics Spring 2022



Visit <https://www.wisys.org/grants/webinars> to register

WiSys Webinar Topics Available On-Demand

Budget Building
Fundamentals

Improving your Odds for
Success BEFORE the
Writing Begins

Planning for Grants
Success

Getting Started! An
Introduction to
PIVOT/Grants Resource
Center

Accelerate and Diversify
Your Funding Search
Results with Pivot-RP

Exploring Administrator
Tools for Maximizing
Benefits from Pivot-RP
Functionality

Finding Funding: Spotlight
on the NIH Academic
Research Enhancement
Award

Finding Funding: Spotlight
on the National Science
Foundation Major
Research Instrumentation
Program

Finding Funding: Spotlight
on the U.S. Department of
Agriculture, National
Institute of Food and
Agriculture

<https://www.wisys.org/grants/webinars>

Questions?

