



# An Introduction to the National Science Foundation

## 2011 Accountability Workshop

Co-Hosted by the European Commission & the  
National Science Foundation

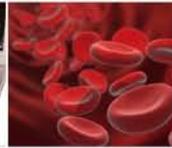
Brussels, Belgium

June 22-24, 2011





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# Ask Early, Ask Often

- **Martha Rubenstein**

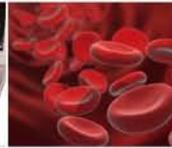
- Chief Financial Officer & Director; Office of Budget, Finance & Award Management

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# Topics

- NSF at a Glance – *Mission, Organization & Goals*
- Budget Outlook 2012 – *The Future is...*
- NSF Merit Review – *The Gold Standard*
- Award Administration – *From Cradle to Crown*
- NSF Policy – *Areas of Emphasis*



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# **NSF at a Glance**

## ***Mission, Organization & Goals***



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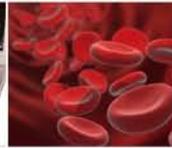
# NSF Mission

- NSF is an independent US agency created by Congress in 1950:
  - to promote the progress of science
  - to advance the national health, prosperity, and welfare
  - to secure the national defense
- NSF fulfills its mission and goals by issuing awards that have been judged the most promising by a rigorous and objective merit-review system.





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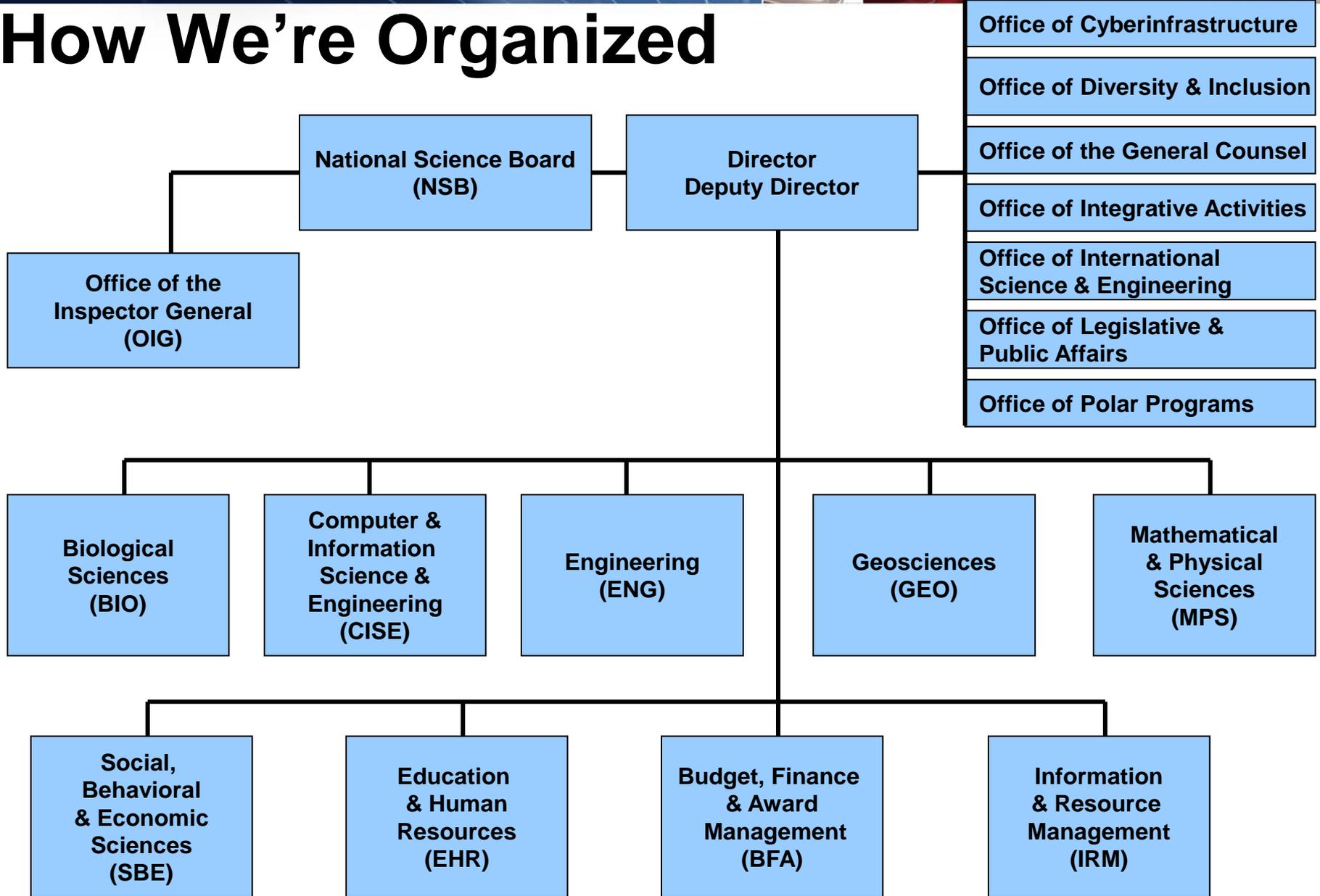


# NSF in a Nutshell

- 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



# How We're Organized



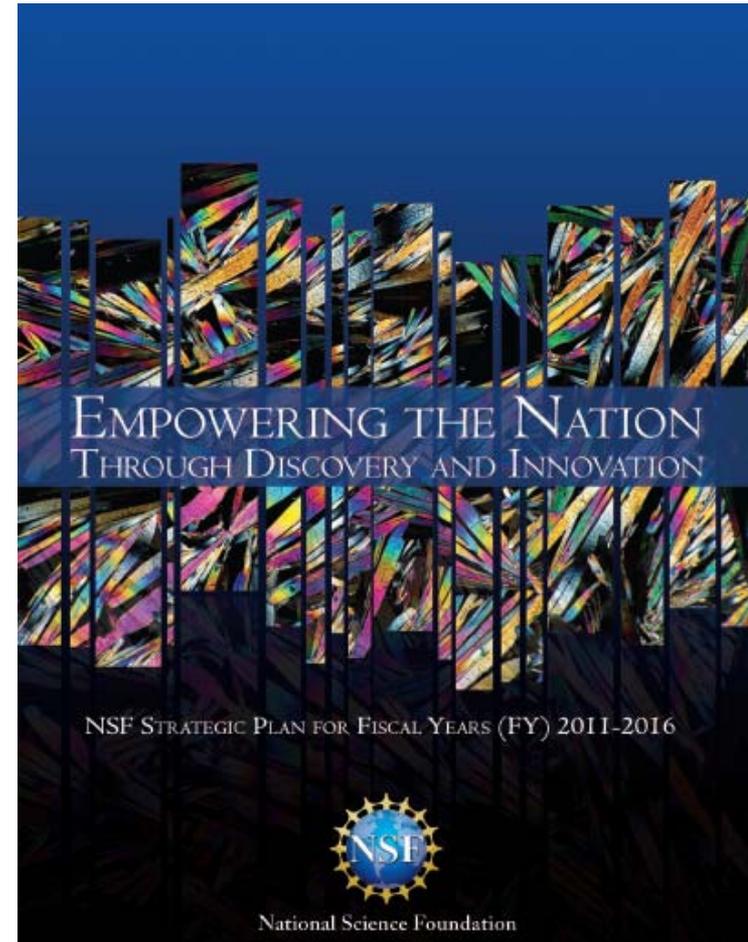


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# NSF Strategic Goals

- Transform the Frontiers
- Innovate for Society
- Perform as a Model Organization





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# Budget Outlook 2012

*The Future is...*



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# FY 2012 Request

(Dollars in Millions)

	FY 2010 Enacted	FY 2011 Enacted	FY 2012 Request	Change Over FY 2011 Enacted		Change Over FY 2010 Enacted	
				Amt	Pct	Amt	Pct
R&RA	\$5,564	\$5,510	\$6,254	\$744	13%	\$690	12%
EHR	\$873	\$861	\$911	\$50	6%	\$38	4%
MREFC	\$117	\$117	\$225	\$108	92%	\$107	92%
AOAM	\$300	\$299	\$358	\$58	19%	\$58	19%
NSB	\$5	\$5	\$5	\$0	7%	\$0	7%
OIG	\$14	\$14	\$15	\$1	7%	\$1	7%
<b>NSF</b>	<b>\$6,873</b>	<b>\$6,806</b>	<b>\$7,767</b>	<b>\$961</b>	<b>14%</b>	<b>\$894</b>	<b>13%</b>

Totals may not add due to rounding



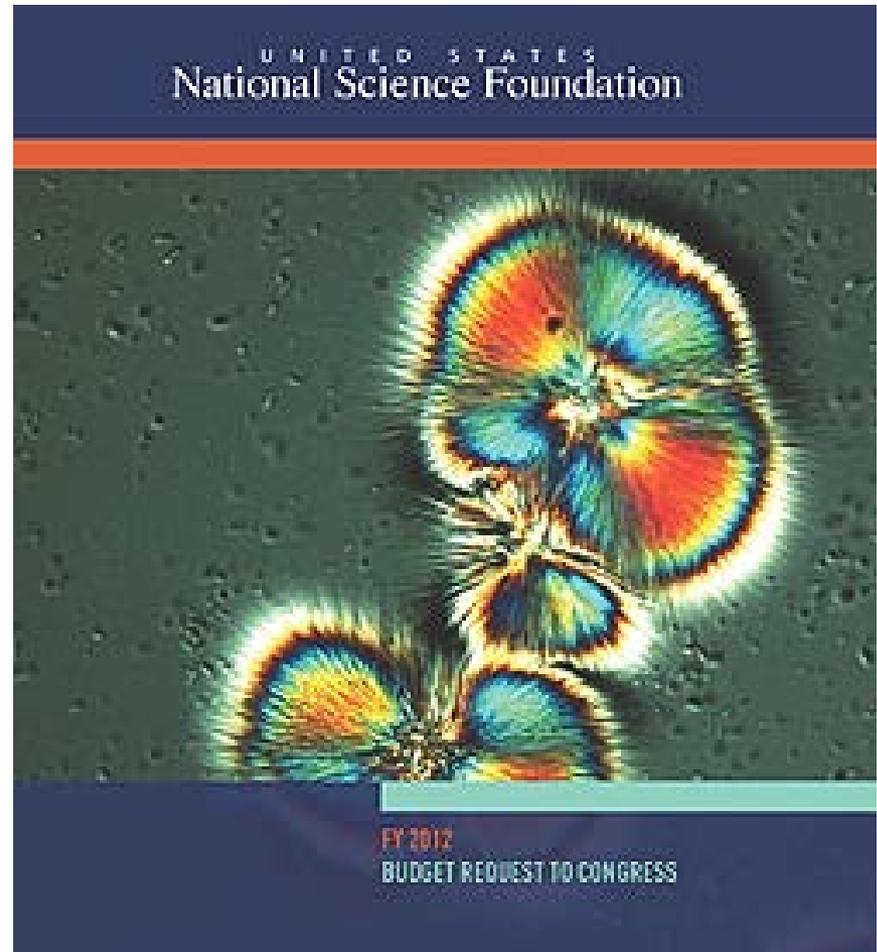
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# FY 2012 Budget Request

## The Three Pillars of Innovation

- Invest in the Building Blocks of American Innovation
- Promote Competitive Markets that Spur Productive Entrepreneurship
- Catalyze Breakthroughs for National Priorities



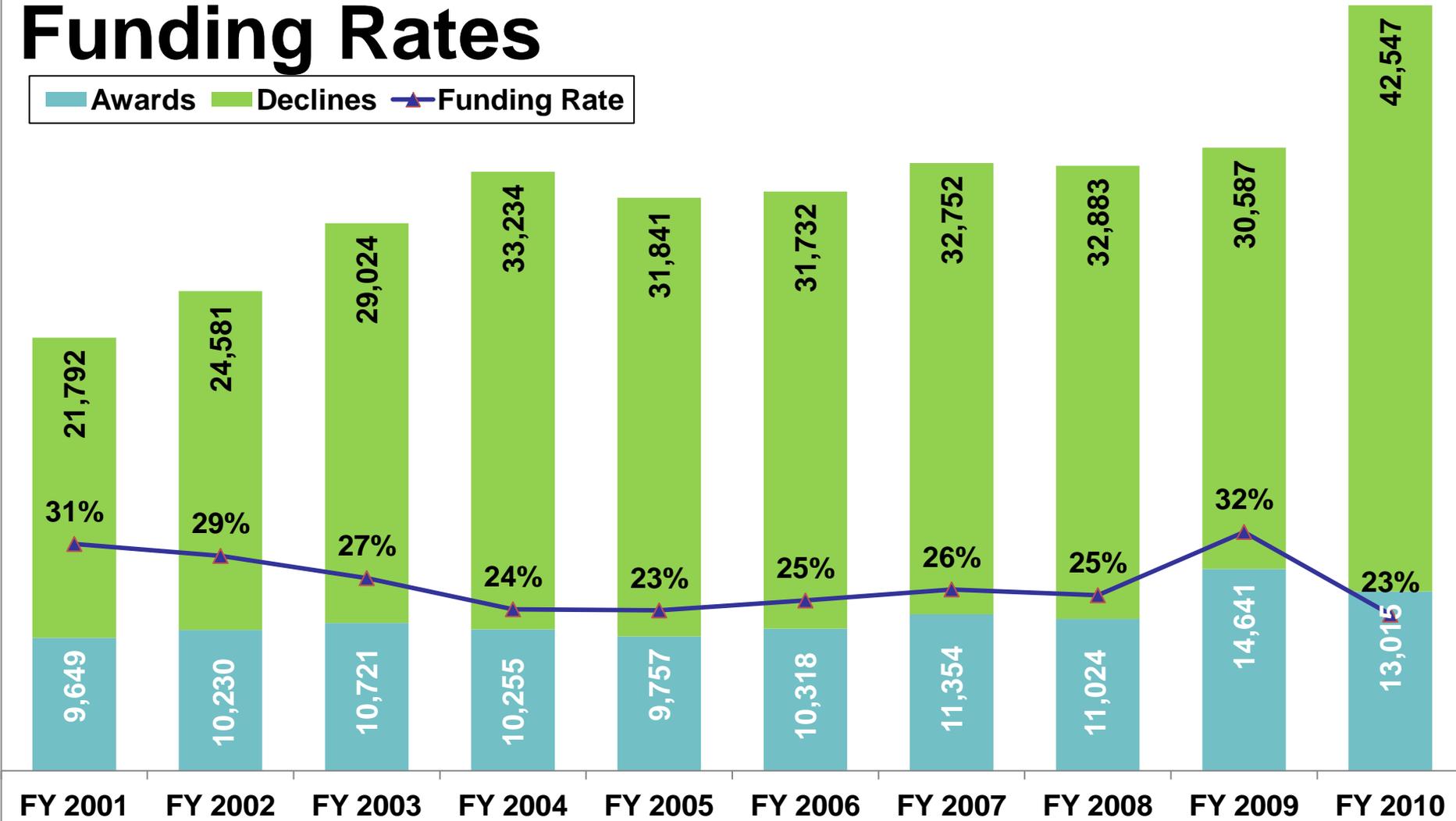


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# NSF Competitive Awards, Declines & Funding Rates

Awards Declines Funding Rate



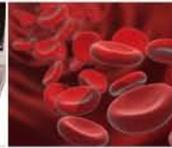


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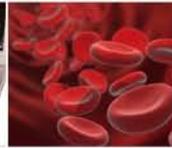
# **NSF Merit Review**

## ***The Gold Standard***



# Merit Review Process at NSF

- Proposals are evaluated by independent reviewers consisting of scientists, engineers and educators, who do not work at NSF or the institutions that employ the proposing researchers.
- All NSF proposals are evaluated through the use of two merit review criteria.
  - Intellectual Merit and
  - Broader Impacts



# Intellectual Merit Considerations

- How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields?
- How well-qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of prior work.)
- To what extent does the proposed activity suggest and explore creative, original or potentially transformative concepts?
- How well-conceived and organized is the proposed activity?
- Is there sufficient access to resources?



# Broader Impacts Considerations

- How well does the activity advance discovery and understanding while promoting teaching, training, and learning?
- How well does the activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic)?
- To what extent will the activity enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships?
- Will the results be disseminated broadly to enhance scientific and technological understanding?
- What may be the benefits of the proposed activity to society?



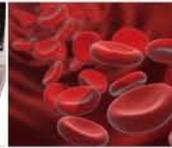
# Types of Reviews

- *Ad hoc*: Proposals sent out for review
  - *Ad hoc* reviewers usually have specific expertise in a field related to the proposal.
  - Some proposals may undergo *ad hoc* review only.
- Panel: Review conducted by peers at NSF
  - Panel reviewers usually have a broader scientific knowledge.
  - Some proposals may undergo only a panel review.
  - Some proposals may undergo reviews by multiple panels (especially for those proposals with cross-cutting themes).



# Types of Reviews

- Combination: Some proposals may undergo supplemental *ad hoc* reviews after a panel review.
- Internal: Review by NSF Program Officers only.  
Examples include:
  - Proposals for Rapid Response Research Grants (RAPID)
  - Proposals for EARly-concept Grants for Exploratory Research (EAGER)
  - Proposals for conferences or workshops



# Funding Decisions

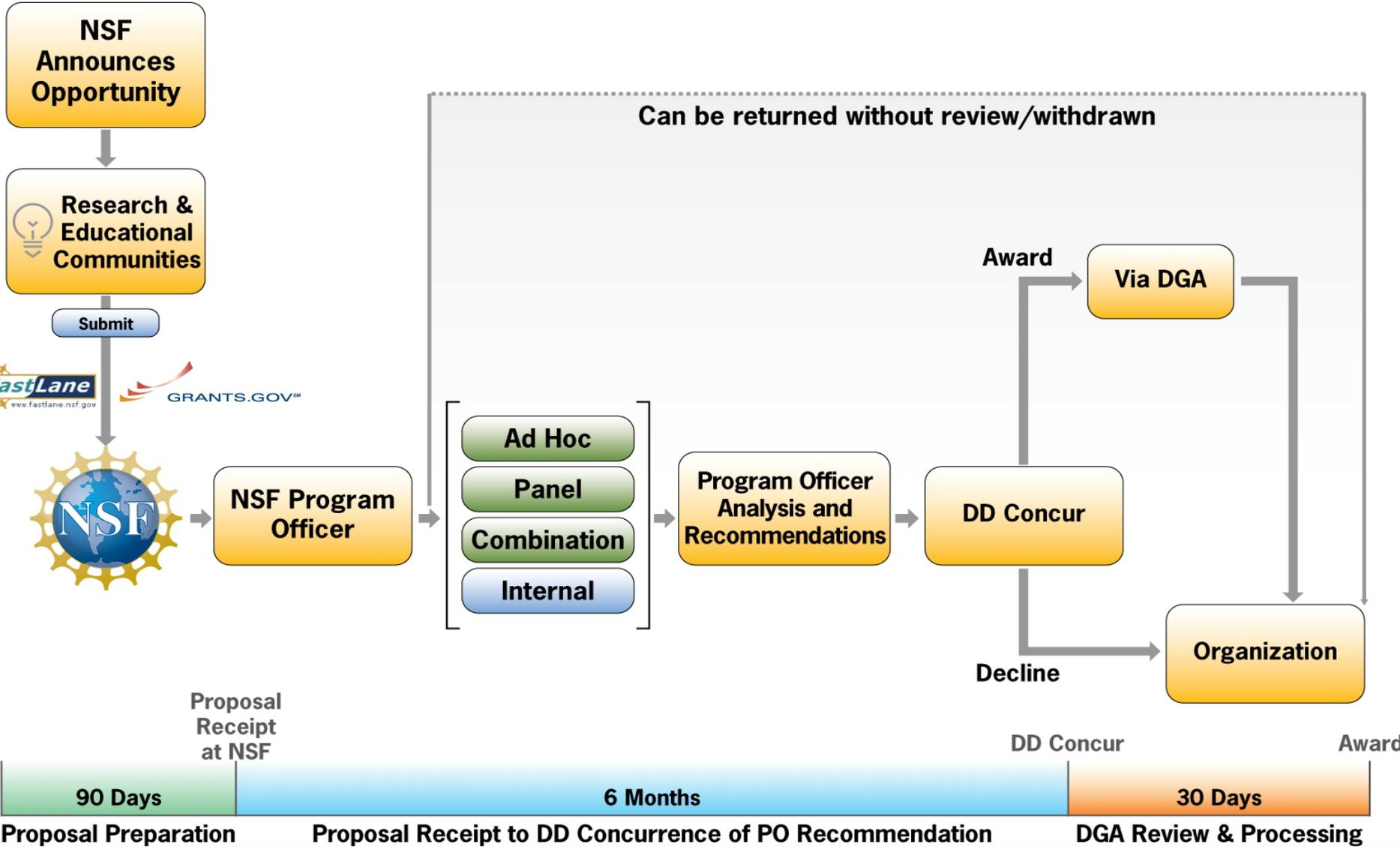
- The merit review panel summary provides:
  - Review of the proposal and a recommendation on funding.
  - Feedback (strengths and weaknesses) to the proposers.
- NSF Program Officers make funding recommendations guided by program goals and portfolio considerations.
- NSF Division Directors either concur or reject the Program Officer's funding recommendations.



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# Proposal Review & Award Process Timeline





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# NSF Merit Review Website





**National Science Foundation**  
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SEARCH

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## Merit Review



**Merit Review Home**

- [Director's Statement](#)
- [Phase I: Proposal Preparation and Submission](#)
- [Phase II: Proposal Review and Processing](#)
- [Phase III: Award Processing](#)
- [Non-Award Decisions and Transactions](#)
- [Merit Review Facts](#)
- [Why You Should Volunteer to Serve as an NSF Reviewer](#)
- [Additional Resources](#)
- [Contact Us](#)

**Proposals and Awards**

- [Proposal and Award Policies and Procedures](#)
- [Introduce a Proposal](#)
- [Submit a Grant](#)
- [Grants.gov Application Guide](#)

## Merit Review

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Through its merit review process, the National Science Foundation (NSF) ensures that proposals submitted are reviewed in a fair, competitive, transparent, and in-depth manner. The merit review process is described in detail in Part I of the NSF [Proposal & Award Policies & Procedures Guide \(PAPPG\)](#): the [Grant Proposal Guide \(GPG\)](#). The GPG provides guidance for the preparation and submission of proposals to NSF.

The goal of this Merit Review website is to help you better understand the NSF merit review process as well as identify resources for additional information (including applicable chapters in the GPG). Sections of this website include:

- [Director's Statement on Merit Review](#)
- [Phase I: Proposal Preparation and Submission](#)
- [Phase II: Proposal Review and Processing](#)
- [Phase III: Award Processing](#)
- [Non-Award Decisions and Transactions](#)
- [Merit Review Facts](#)
- [Why You Should Volunteer to Serve As An NSF Reviewer](#)
- [Additional Resources](#)
- [Contact Us](#)

An overview of the NSF Proposal and Award Process is presented in the diagram below. The text in the following sections correspond to the different areas on the diagram.



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# **Award Management**

## ***From Cradle to Crown***



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# NSF Award Management Philosophy

- NSF is an assistance agency
  - Research carried out by awardee
- Integrated Oversight Enterprise
  - Program provides oversight of scientific progress
  - BFA provides oversight of compliance and business assistance
- Audit responsibility resides with OIG.
- End-to-end award management
- Risk-based review



# Types of Awards

- Grant & Cooperative Agreements
  - Relationship is one of assistance
  - Principal purpose is for the direct benefit or use of the public
  
- Contracts
  - Procurement of goods and services
  - Principal purpose is for the direct benefit or use of the Federal government

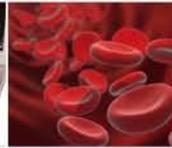


# Issuing an NSF Award

- NSF grants and agreements officers review the recommendation from the program office for business, financial, and policy implications make the official award as long as:
  - The institution has an adequate grants management capacity.
  - The PI/Co-PIs do not have overdue annual or final reports.
  - There are no other outstanding issues with the institution or PI.



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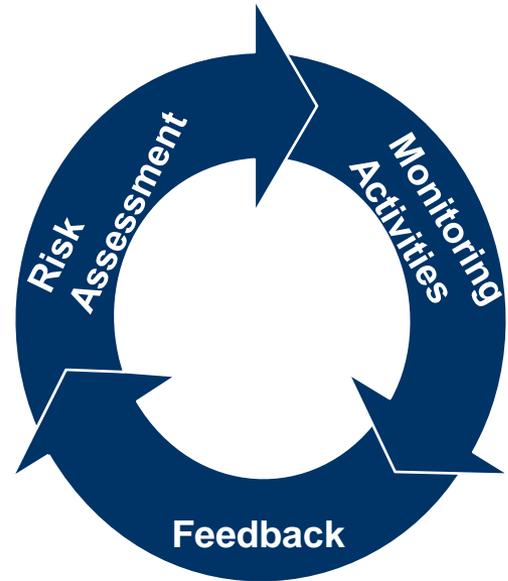
# Award Administration – Relevant Roles of Awardee & NSF

- Awardee... has full responsibility for the conduct of the project
- NSF... is hands off project and minimal monitoring (with the exception for cooperative agreements)



# Risk-Based Monitoring Strategy

- The portfolio monitoring strategy contains three key components
  - Risk Assessment
  - Comprehensive Monitoring Activities
  - Tracking Monitoring Results and Gathering Feedback





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# **NSF Policy**

## ***Areas of Emphasis***

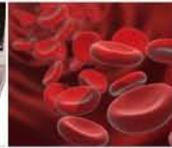


# Areas of Emphasis in NSF Policy

- **Responsible conduct of research**
  - Institutions must provide training and oversight in the responsible conduct of research to undergraduates, graduates, and postdoctoral researchers.
- **Data management**
  - Investigators are expected and encouraged to share data, samples, physical collections and other materials created or gathered under NSF awards.
- **Mentoring of postdoctoral researchers**
  - Proposals supporting postdoctoral researchers must include a description of the mentoring activities that will be provided.



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## For More Information

# Ask Early, Ask Often!

<http://www.nsf.gov/staff>

<http://www.nsf.gov/staff/orglist.jsp>