



WHERE DISCOVERIES BEGIN

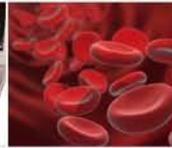


NSF Update



November 2011



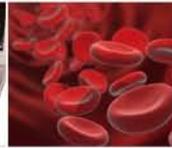


Ask Early, Ask Often

- Policy Office
 - Office of Budget, Finance & Award Management
 - Division of Institution & Award Support
 - voice: 703.292.8243
 - email: policy@nsf.gov



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Topics Covered

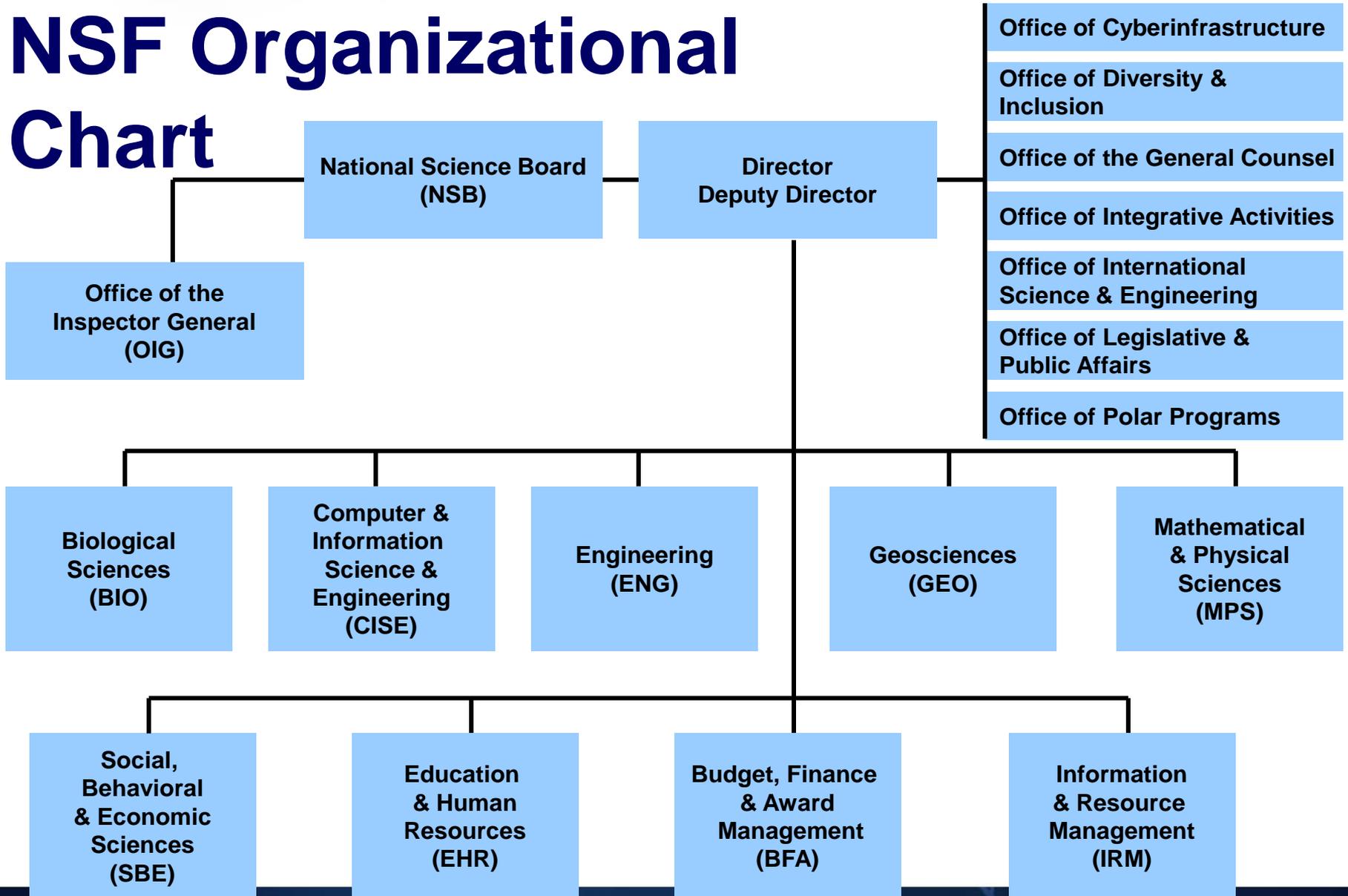
- NSF Organization
- NSF Personnel Changes
- NSF Budget in the Federal Context
- NSF Fiscal Year 2012 Budget Request
- Funding Trends
- Recovery Act Update
- Grants – What's on the Horizon
- Research.gov
- NSF Policy Update
- Questions



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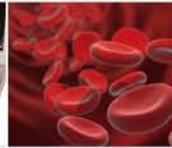


NSF Organizational Chart





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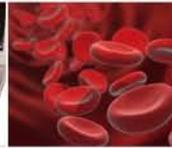


Personnel Changes

- Dr. Subra Suresh confirmed as NSF Director
- Dr. Cora Marrett confirmed as NSF Deputy Director
- Dr. John Wingfield appointed Assistant Director for Biological Sciences
- Dr. Joan Ferrini-Mundy appointed Assistant Director for Education & Human Resources
- Dr. Machi Dilworth appointed Head, Office of International Science & Engineering
- Ms. Amy Northcutt appointed Acting Director of the Office of Information & Resource Management

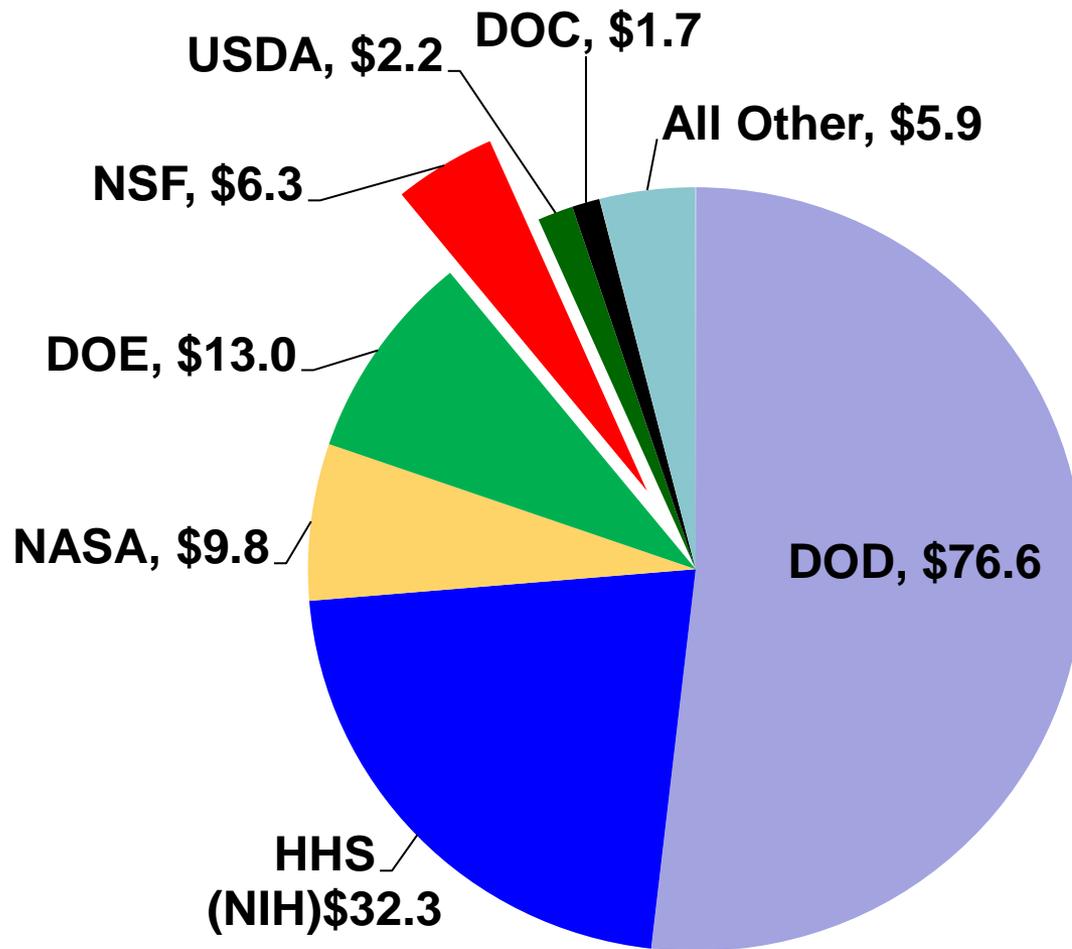


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Total R&D by Agency: 2012 Budget

Budget Authority in billions of dollars



**Total R&D =
\$147.9 billion**

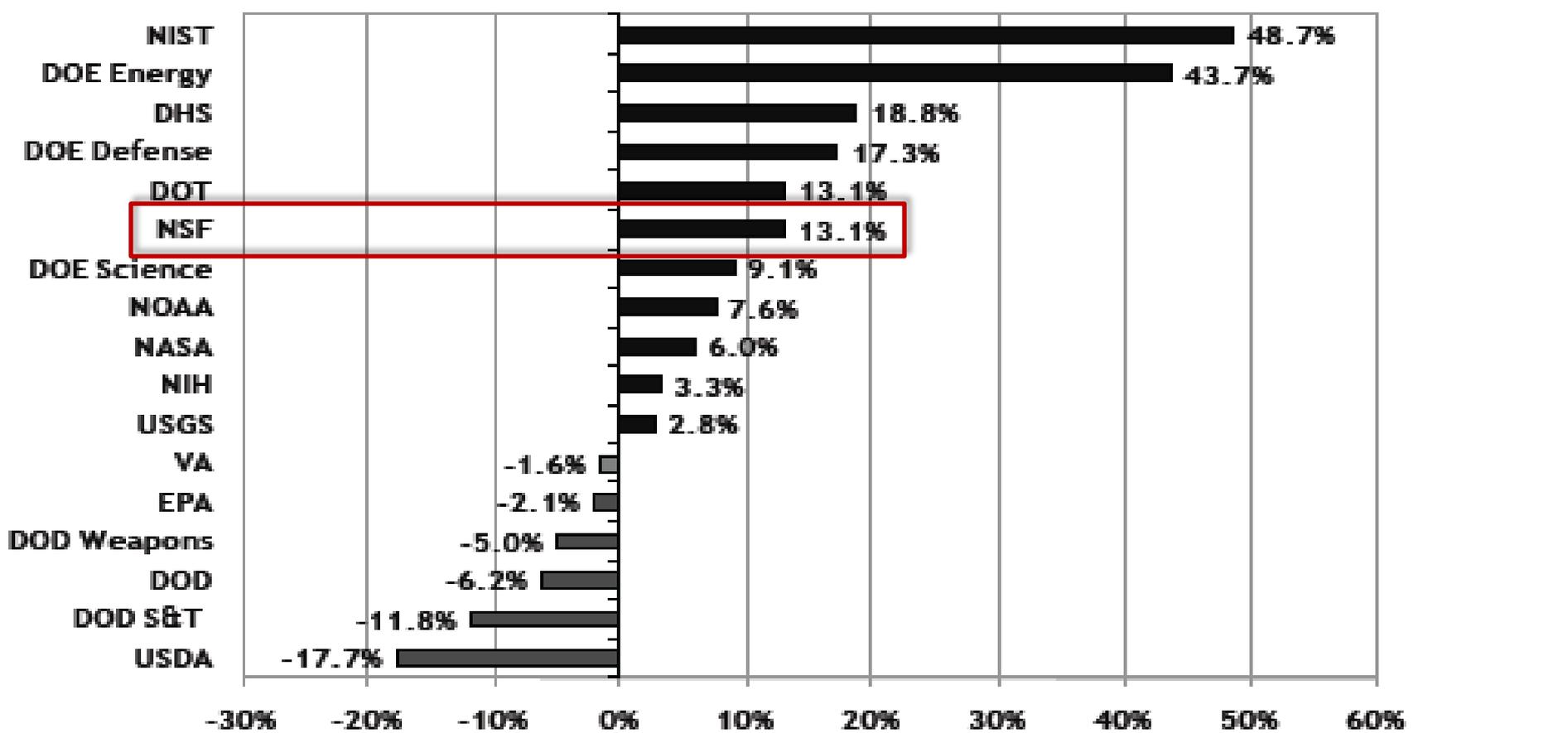


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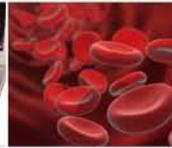
R&D in the FY 2012 Budget Request

Percent Change from FY 2010



Sources: OMB R&D data, agency budget justifications, and other agency documents.





FY 2012 Appropriations Status

- **July 13:** House Committee on Appropriations passed bill
- **Sept 15:** Introduced to Senate Committee on Appropriations. Bill not yet passed.
- **Oct 1:** FY 2012 began under Continuing Resolution
- **Nov 18:** Continuing Resolution expires



FY 2012 Budget Request

Account	FY 2011 Enacted	FY 2012 Request	FY 2012 House Mark	FY 2012 Senate Mark
R&RA	\$5,564	\$6,254	\$5,601	\$5,443
EHR	\$861	\$911	\$834	\$829
MREFC	\$117	\$225	\$100	\$117
AOAM	\$299	\$358	\$299	\$290
NSB	\$5	\$5	\$5	\$4
OIG	\$14	\$15	\$14	\$14
Total	\$6,860	\$7,768	\$6,853	\$6,697

Totals may not add due to rounding.



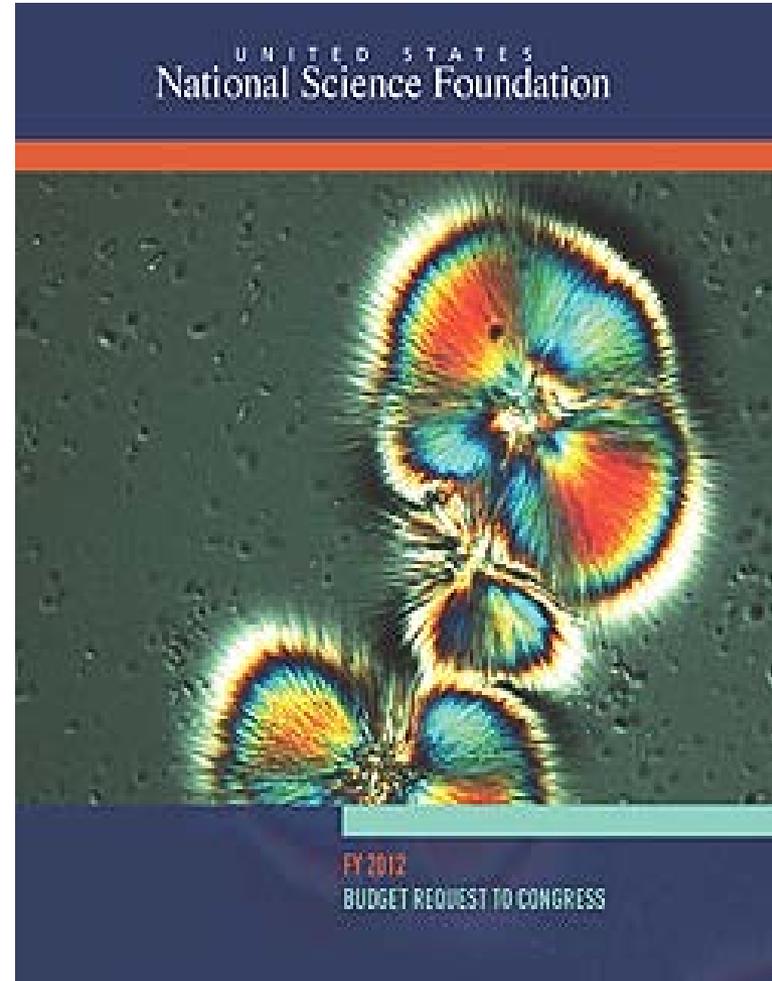
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FY 2012 Budget Request

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

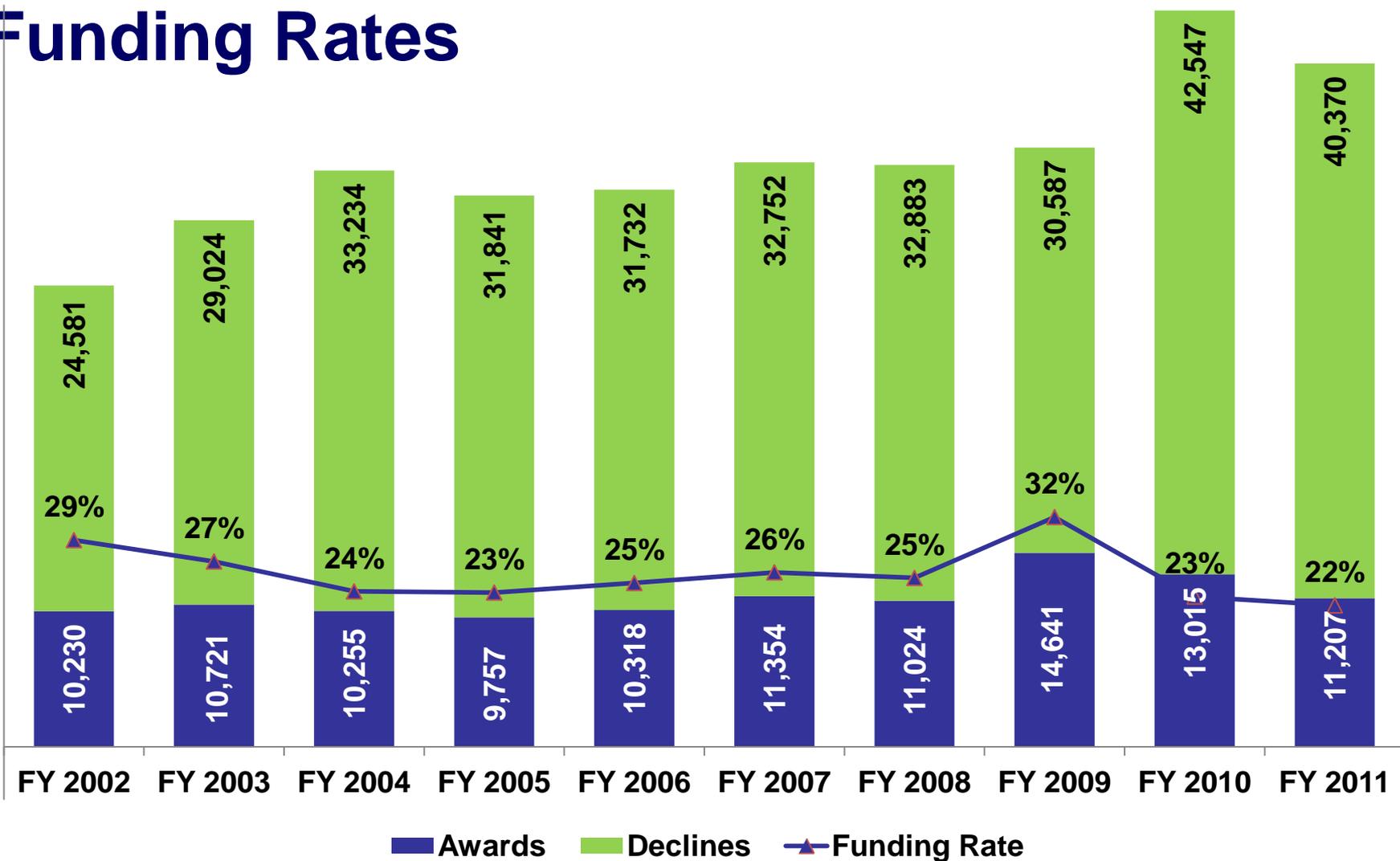




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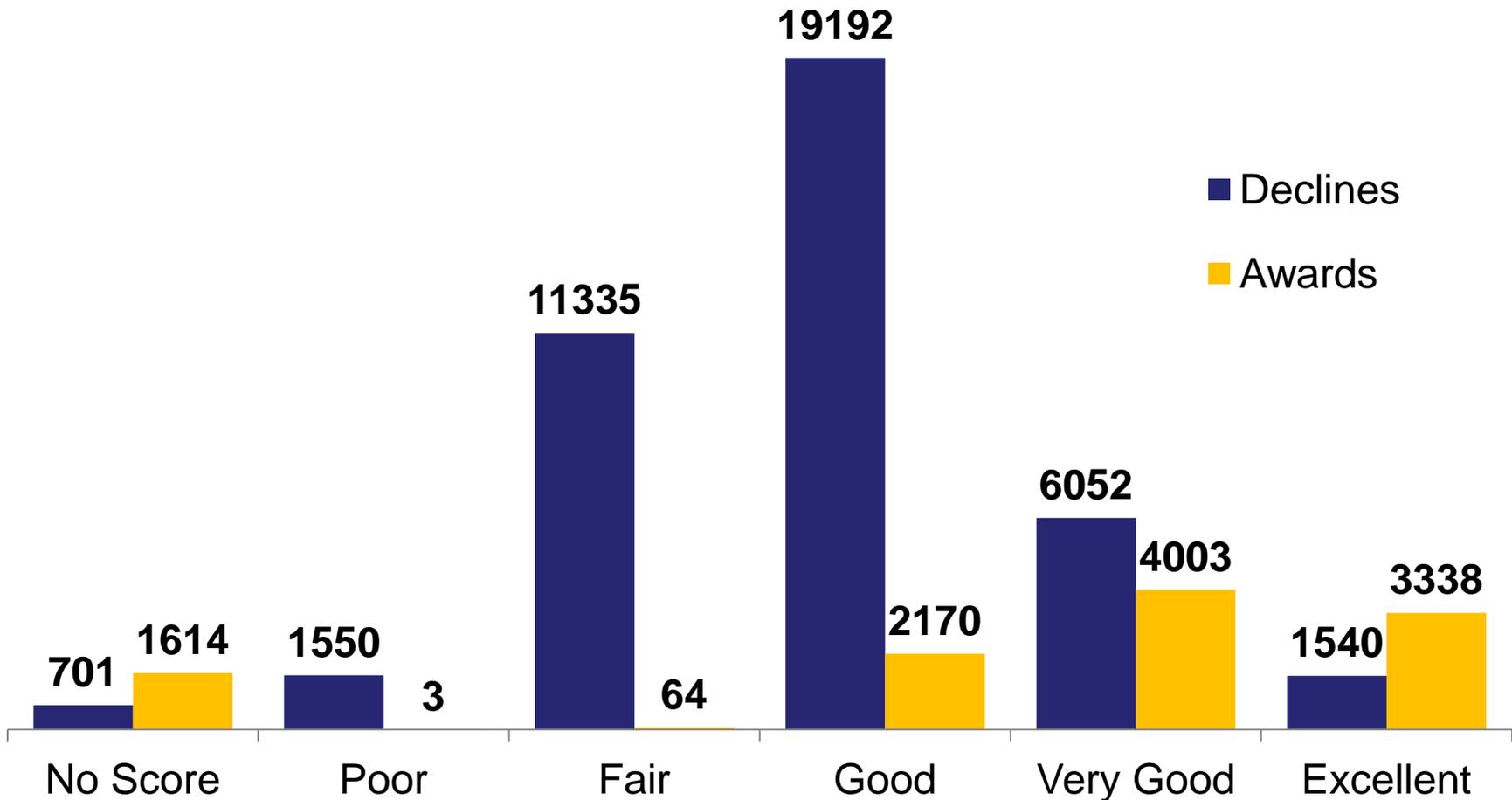


NSF Competitive Awards, Declines, & Funding Rates





Distribution by Average Reviewer Ratings for Awards and Declines, FY 2011





ARRA: Reporting & Accountability Requirements

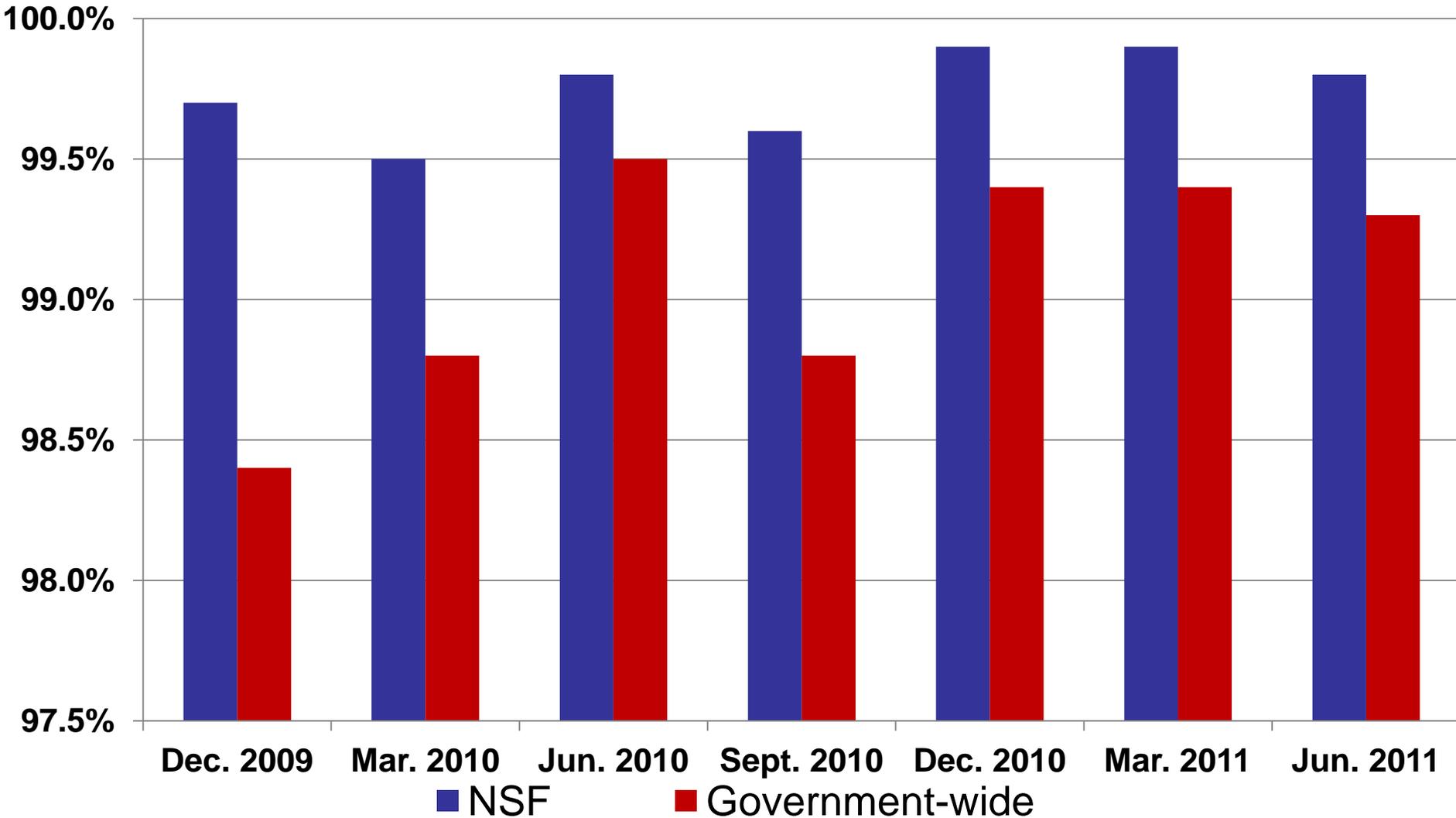
- The OMB expectation is for a high level of accountability and transparency from both agencies and recipients.
 - Higher scrutiny from:
 - Administration
 - Congress
 - Public
 - Recovery Act Accountability & Transparency Board
 - NSF Office of the Inspector General (OIG)

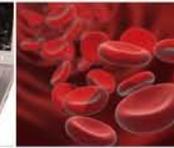
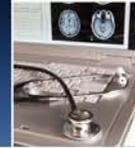


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ARRA Recipient Reporting Trends





ARRA: Accelerating Spending

- OMB memo issued in September 2011 (M-11-34) instructing agencies to accelerate Recovery Act spending.
- Eighty-five percent of Recovery Act funds have been spent, however, billions remain obligated yet unspent.
- Funds still unspent by September 30, 2013, will be reclaimed by the agencies
- Waivers will only be granted in exceptional cases.
- NSF is coordinating response to this Memorandum with NIH.



Grants – What's on the Horizon

- Digital Accountability & Transparency Act (DATA Act)
 - Would require quarterly reporting on use of funds
- STAR METRICS
 - Documenting results of federal S&T investments
- Federal Grants Solicitations Improvement Act
 - Would require agencies to submit a forecast of grant solicitations by funding area for the coming fiscal year



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September 28, 2011

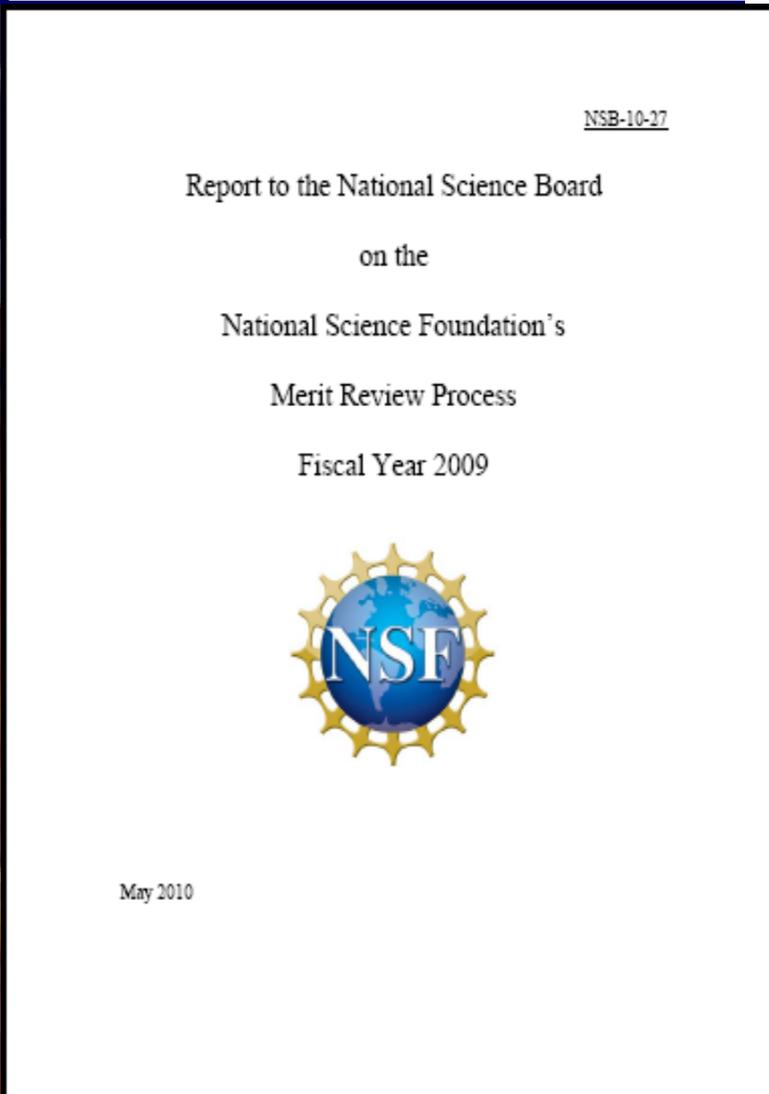
- Supports the needs of institutions and researchers
- Increases transparency of Federal research spending and outcomes (Research Spending & Results/Project Outcomes Report)
- Provides the public, scientific community, and Congress with easy access to information (SEE Innovation)
- Leverages government-wide standards (RPPR/FFR)



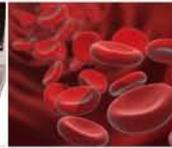
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Key Documents



- **Proposal & Award Policies & Procedures Guide (PAPPG)**
- **FY 2012 Budget Request to Congress**
- **Science & Engineering Indicators**
- **Report to the NSB on NSF Merit Review Process**

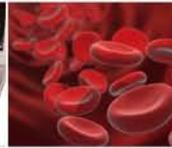


Policy Update

- Update on revision of NSF Merit Review Criteria by NSB
- NSF Merit Review Working Group Process Activities
- NSF's Career Life-Balance Initiative
- NSF Implementation of the Research Performance Progress Report (RPPR)
- NSF Award Terms and Conditions Update
- Minor Revision to Issuance of Continuing Grant Awards



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NSB Task Force on



Merit Review





NSB Task Force on Merit Review

- Established Spring 2010, charged with “examining the two Merit Review Criteria and their effectiveness in achieving the goals for NSF support for science and engineering research and education”
- Focusing on:
 - How criteria are being interpreted and used by PIs, reviewers, and NSF staff
 - Strengths and weaknesses of criteria
 - Impact of criteria on how PIs develop projects
 - Role of the institution



WHERE DISCOVERIES BEGIN



Sec. 526 of America COMPETES Reauthorization Act (ACRA) of 2010

- Instructs NSF to develop and implement a Broader Impacts (BI) review criterion that achieves the following national goals:
 - Increased economic competitiveness of the United States.
 - Development of a globally competitive STEM workforce.
 - Increased participation of women and underrepresented minorities in STEM.
 - Increased partnerships between academia and industry.
 - Improved pre-K–12 STEM education and teacher development.
 - Improved undergraduate STEM education.
 - (Increased public scientific literacy.
 - Increased national security.



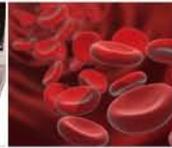
Section 526 (Cont'd)

- Implement a policy for the BI criterion that:
 - Provides for education internally/externally about the policy;
 - Clarifies that BI activities shall either draw on proven strategies and existing programs/activities; or for new approaches, build on current research;
 - allows for some portion of funds allocated to broader impacts under a research grant to be used for assessment and evaluation of the broader impacts activity; and
 - requires principal investigators applying for Foundation research grants to provide evidence of institutional support for the portion of the investigator's proposal designed to satisfy the Broader Impacts Review Criterion, including evidence of relevant training, programs, and other institutional resources available to the investigator from either their home institution or organization or another institution or organization with relevant expertise.



Current Status

- The NSB solicited input internally and externally regarding the existing merit review criteria
- Task Force proposed a set of principles and revised review criteria at the May 2011 NSB meeting
- Dear Colleague Letter released on June 14, 2011 requesting input on the revised criteria
- Nearly 280 comments received, nearly two-thirds from university faculty
 - Concerned that intent of broader impacts concept was weakened
 - List of national goals was problematic

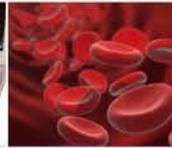


Next Steps

- Task Force met in September to discuss new revisions
- Will be preparing its full report over the next few months
- Plan to present full report and recommendations at December NSB meeting
- NSF will then begin implementation of the revised criteria



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Reëxamining the Merit Review Process:



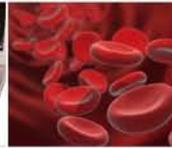
The NSF Merit Review Process Working Group





In a nutshell....

- New internal NSF Working Group created by Dr. Suresh
- Looking for potential enhancements to the merit review process that:
 - Reduce the burden on reviewers & proposers;
 - Stimulate the submission of of high-risk/game-changing ideas; and
 - Ensure that the process identifies/funds an appropriate portion of high-risk, game-changing ideas.



In a nutshell (cont'd)

- Developing:
 - A design for a program of pilot activities
 - A framework for evaluating past and future pilots
- Engaging:
 - NSF staff and the research community in developing, testing and assessing novel methods of proposal generation and proposal review

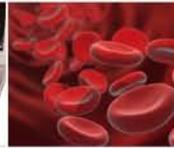


Experiments Conducted to Date

- Represent $< 1\%$ of proposals reviewed by NSF
- Focus on review process and NOT on merit review criteria
- Directed towards specific goals or questions
- Limited experience to date ($n < 5$)
- Evaluation of results pending



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Career - Life Balance Initiative





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Representative External Drivers

GENDER DIFFERENCES AT CRITICAL TRANSITIONS IN THE CAREERS OF SCIENCE, ENGINEERING AND MATHEMATICS FACULTY

NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES

Center for American Progress BerkeleyLaw UNIVERSITY OF CALIFORNIA
Berkeley Center on Health, Economic & Family Security

Staying Competitive

Patching America's Leaky Pipeline in the Sciences

Author: Goulden, Ph.D., Karie Frasch, Ph.D., and Mary Ann Mason, J.D., Ph.D.
University of California, Berkeley Berkeley Center on Health, Economic, & Family Security
The Center for American Progress
November 2009

Dual-Career Academic Couples
What Universities Need to Know

Michelle R. Clayman Institute for Gender Research
Stanford University

A Report on the Status of Women Faculty in the Schools of Science and Engineering at MIT, 2011

MIT Massachusetts Institute of Technology

BEYOND BIAS AND BARRIERS

FULFILLING THE POTENTIAL OF WOMEN IN ACADEMIC SCIENCE AND ENGINEERING

NATIONAL ACADEMY OF SCIENCES, NATIONAL ACADEMY OF ENGINEERING, AND INSTITUTE OF MEDICINE OF THE NATIONAL ACADEMIES



Career-Life Balance Initiative

Why?

- To assure an excellent U.S. STEM workforce, by creating a coherent set of career—life balance policies and program opportunities that take into account the career-family life course.
- To reduce the rate of departure of women from the STEM pathway, taking advantage of the large production rate of highly capable women graduates.

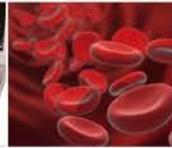
Why Now?

- “To renew and strengthen U.S. leadership in STEM talent development and “to expand STEM education and career opportunities for underrepresented groups, including women” (*Educate to Innovate*)
- Global competitiveness



Career-Life Balance Initiative NSF Plan

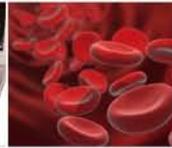
- Agency-level pathway approach across higher education and career levels (i.e., graduate students, postdoctoral students, and early career populations).
- Initial focus on career—life balance opportunities such as dependent care issues across the pathway (i.e., postdoctoral fellows and early career faculty).
- Initial Programs: CAREER and NSF postdoctoral programs.
- Also expand later to GRF, ADVANCE, and others.



Career – Life Balance Initiative: Implementation

Leadership

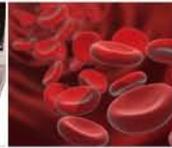
- Expand best practices NSF-wide across the pathway
 - Defer award start date for child birth/adoption
 - No cost extension for parental leave
- Accommodate career—life balance opportunities such as approval for use of research technicians, where appropriate
- Enhance program management
 - Educate/train program officers, reviewers & panelists
 - Revise program solicitations; issue FAQs & announcements
 - Promote family-friendliness for panel reviewers



Career – Life Balance Initiative: Implementation (Cont'd)

Leadership (Cont'd)

- Support research/evaluation on women in STEM issues
- Promote Federal policy -- Title IX
- Lead by example to become a model agency for gender equity



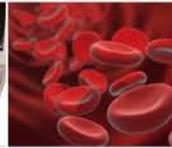
Career – Life Balance Initiative: Implementation (Cont'd)

Partnerships

- With institutions of higher education
 - Supporting & promoting institutions' best practices
 - Extending the tenure clock; dual career opportunities
- With Federal agencies
 - Exchange best practices
 - Better harmonize family-friendly policies & practices
 - Issue joint statements
- With professional associations/societies; for example
<http://www.aau.edu/WorkArea/DownloadAsset.aspx?id=12646>.



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Career – Life Balance Initiative: Implementation (Cont'd)

Communications

- NSF Important Notice to College/University Presidents
- NSF webpage and program-specific webpages
- NSF webinars

See <http://www.nsf.gov/career-life-balance/>



Promoting Career – Life Balance Opportunities

“Federal agencies and research universities need to take concerted action to provide a suite of family responsive policies and resources for America’s researchers to change the problems [cited] and keep young researchers in the pipeline to fast-track academic careers in the sciences.”

-- *Staying Competitive, 2009*



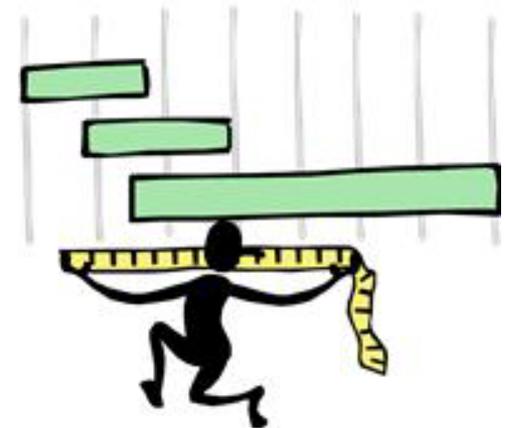
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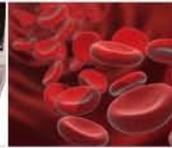


NSF Implementation of the



Research Performance Progress Report (RPPR)





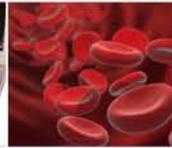
RPPR Background

- Brief History of the RPPR
 - The RPPR is the result of an initiative of the Research Business Models (RBM) Subcommittee of the Committee on Science (CoS), a committee of the National Science and Technology Council (NSTC).
 - One of the RBM Subcommittee's priority areas is to create greater consistency in the administration of federal research awards through streamlining and standardization of forms and reporting formats.
 - Upon implementation, the RPPR will be used by federal agencies that support research and research-related activities. It is intended to replace other performance reporting formats currently in use by agencies.
 - Agencies were required to post an implementation plan within nine months of the issuance of the OSTP/OMB Policy Letter



RPPR Components (as approved by OMB/OSTP)

- Cover Page Data Elements
- Mandatory Category
 - Accomplishments: What was done? What was learned?
- Optional Categories
 - Products: What has the project produced?
 - Participants & Other Collaborating Organizations: Who has been involved?
 - Impact: What is the impact of the project? How has it contributed?
 - Changes/Problems
 - Special Reporting Requirements
 - Budgetary Information
 - Appendix 1: Demographic Information for Significant Contributors



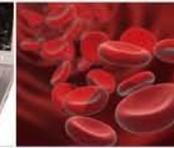
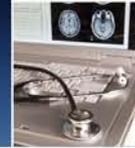
NSF Implementation

- NSF plans to:
 - Utilize the following components as part of an NSF-wide standard format:
 - Mandatory Category:
 - Accomplishments: What was done? What was learned?
 - Optional Categories:
 - Products: What has the project produced?
 - Participants & Other Collaborating Organizations: Who has been involved?
 - Impact: What is the impact of the project? How has it contributed?
 - Changes/Problems
 - Special Reporting Requirements (where applicable)
 - Appendix 1: Demographic Information for Significant Contributors



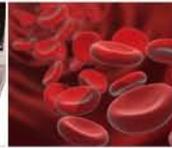
NSF Implementation (cont'd)

- NSF will offer a new project reporting service on Research.gov which implements the RPPR format, replacing NSF's annual, interim, and final project reporting capabilities in the FastLane System
- The project reporting service will provide a common portal for the research community to manage and submit annual, interim, and final progress reports
- One of the key drivers in development of the project reporting service is the reduction of PI and Co-PI burden through use of more innovative mechanisms to pre-populate parts of the report



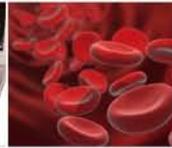
Benefit to PIs

- Designed to highlight most immediate requirements
- Leveraging new data sources to reduce burden
- Secure mechanism for creating and managing Other Authorized Users
- More structured collection of the project reports data for enhanced NSF use
- Will adopt federal-wide data dictionary to increase consistency of implementation across agencies



Leveraging New Mechanisms To Reduce Burden

- Evaluating external data sources to enhance pre-population
 - Publications and patent data
 - Participants and other collaborating organizations
- Including option to import citations in numerous formats
- Planning for future support of system-to-system submission

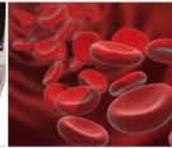


RPPR Status Update

- Grants Management Line of Business:
 - Completed a draft RPPR data dictionary based upon the OMB RPPR approved format
 - Completed a draft RPPR XML schema
 - Both documents have been circulated for inter-agency review
- NSF:
 - Closing out the RPPR requirements phase
 - The RPPR design phase is set to begin later this fall with an anticipated rollout beginning in next summer



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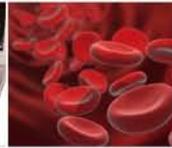


NSF Award Conditions Update



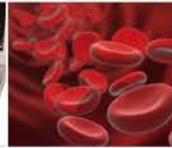
Effective January, 2012





ACRA Section 520

- “Any institution of higher education (as such term is defined in section 101(A) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)) that receives National Science Foundation research support and has received at least \$25,000,000 in total Federal research grants in the most recent fiscal year shall keep, maintain, and report annually to the National Science Foundation the universal record locator (URL) for a public website that contains information concerning its general approach to and mechanisms for transfer of technology and the commercialization of research results...”

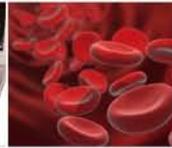


NSF Implementation

- NSF will be implementing the statutory provision via inclusion of a new agency specific requirement to the Research Terms and Conditions
- To meet threshold, both NSF and Federal research grants must have been active at some point during most recently completed Federal fiscal year
- Awardees will electronically submit their URLs to, and info will be posted on, the Science, Engineering and Education (SEE) Innovation section of Research.gov
- Institutions will not be required to reveal confidential, trade secret, or proprietary information on their websites



WHERE DISCOVERIES BEGIN



Other Grant Condition Updates

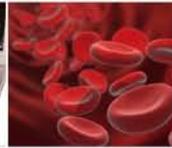
- Travel Conditions
- Expenditure Report Submission
- Indirect Costs



Changes to Award Duration

Effective October 21, 2011:

- All NSF awards will receive all of their time (Effective Date to Expiration Date) at time of initial award
- The “final” Expiration Date will be in the award letter
- Existing grants will be “converted” and will have their expiration date set to the “final” expiration date of the award
- Awardees will receive notification of the converted awards and new Expiration Dates
- This change mainly impacts Continuing Grants



Changes to Award Duration

Benefits:

This will:

- Make award letters more accurate in terms of project duration
- Help eliminate confusion over expiration dates
- Help in tracking when awards “really” expire
- Assist with requesting no cost extensions
- Simplify internal NSF processing



Changes to Award Duration

Example: Initial Award

Current Process

This award is effective **October 15, 2011** and expires **September 30, 2012**.

This is a continuing grant which has been approved on scientific / technical **merit for approximately 3 years**. Contingent on the availability of funds and the scientific progress of the project, NSF expects to continue support at approximately the following level:

FY 2012	\$75,101
FY 2013	\$124,724

New Process

This award is effective **October 15, 2011** and expires **September 30, 2014**.

This is a continuing grant which has been approved on scientific / technical merit. Contingent on the availability of funds and the scientific progress of the project, NSF expects to continue support at approximately the following level:

FY 2012	\$75,101
FY 2013	\$124,724



Changes to Award Duration

Example: Award Increment

Current Process

Notification of NSF Approval of Additional Funding Support

Award No.	DMS-XXXXXXX
Amendment No.	004
Release Date:	October 7, 2011
Released By:	Denise Martin
Amount:	\$75,101
New Expiration Date:	September 30, 2013

As authorized by the original award, the National Science Foundation hereby releases \$75,101 for additional support of the award referenced above. The award, with this amendment, now totals \$180,000 and will expire on **September 30, 2013**.

New Process

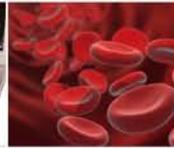
Notification of NSF Approval of Additional Funding Support

Award No.	DMS-XXXXXXX
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Release Date:	October 7, 2011
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Amount:	\$75,101
Award Expiration Date:	September 30, 2014

As authorized by the original award, the National Science Foundation hereby releases \$75,101 for additional support of the award referenced above. The award, with this amendment, now totals \$180,000 and will expire on **September 30, 2014**.



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Questions

