

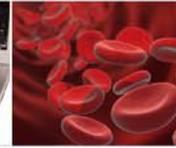


National Science Foundation Update Spring 2012





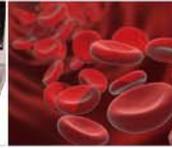
WHERE DISCOVERIES BEGIN



Ask Early, Ask Often

- **Policy Office**

- Division of Institution & Award Support
- Office of Budget, Finance & Award Management
- policy@nsf.gov; 703.292.8243



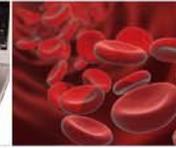
Topics Covered

- Personnel Update
- NSF Fiscal Year 2013 Budget Request
- NSF Budget in the Federal Context

- ARRA Acceleration

- Merit Review:
 - Merit Review Criteria
 - Merit Review Process

- Research.gov Update
- Award Terms and Conditions Update
- Cost Sharing Update
- Research Performance Progress Report



Personnel Update

- Mr. Eugene Hubbard appointed Head, Office of Information & Resource Management and Chief Human Capital Officer January 8, 2012
- Ms. Amy Northcutt appointed Chief Information Officer January 8, 2012
- Ms. Judith Gan appointed Head, Office of Legislative & Public Affairs January 15, 2012
- Dr. Karl Erb, Head, Office of Polar Programs (OPP) retired on March 31, 2012
- Dr. Kelly Falkner appointed Acting Head, OPP as of April 1, 2012



WHERE DISCOVERIES BEGIN



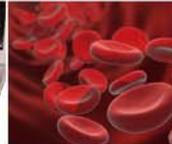
FY 2013 Budget Request

- \$7.373 billion
- Consistent with Administration's commitment to doubling NSF and basic research agencies
- Emphasizes ways that fundamental research contributes to addressing national challenges





WHERE DISCOVERIES BEGIN



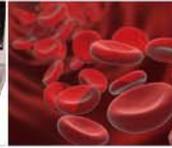
FY 2013 Budget Request

National Science Foundation Funding by Account

(Dollars in Millions)

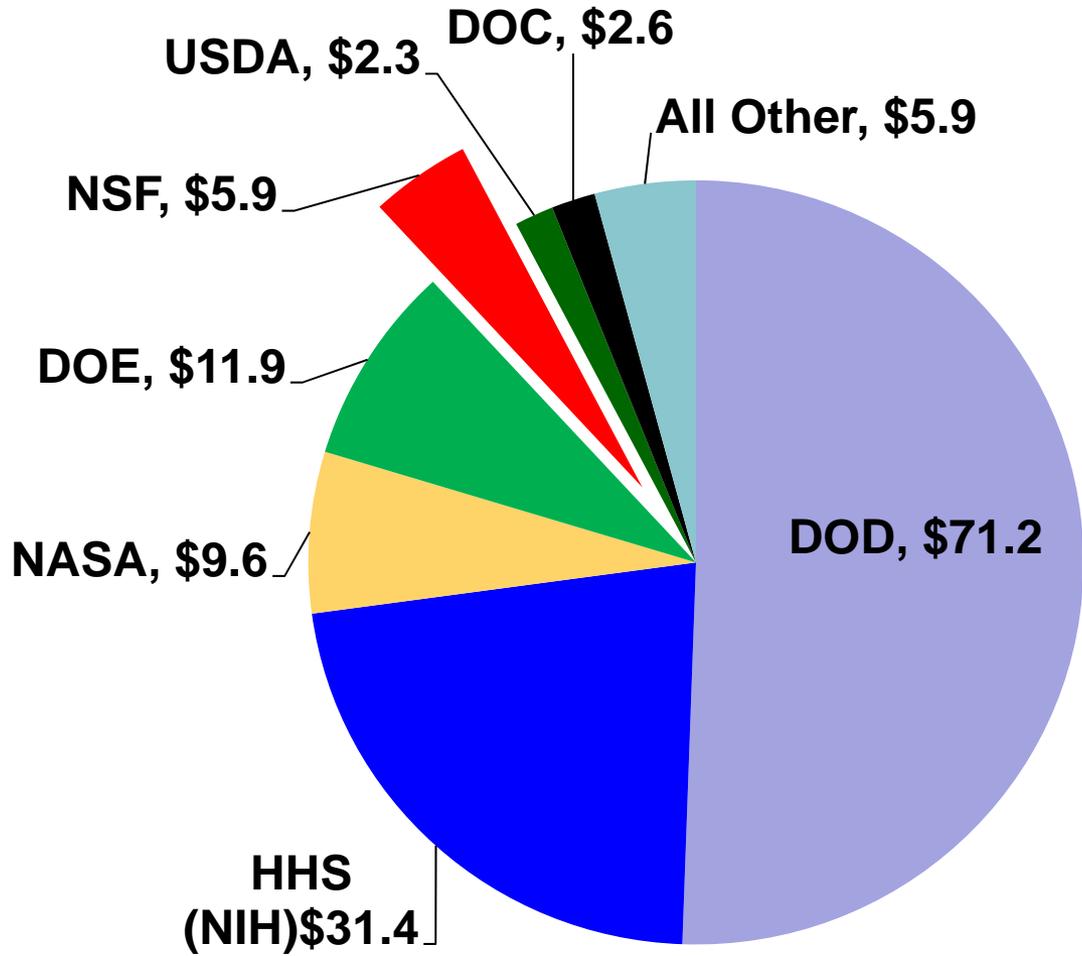
	FY 2012 Enacted	FY 2013 Request	Change Over FY 2012 Enacted	
			Amount	Percent
Research & Related Activities	\$5,689	\$5,983	\$294	5.2%
Education & Human Resources	829	876	47	5.6%
Major Research Equipment & Facilities	197	196	-1	-0.4%
Construction				
Agency Operations & Award Management	299	299	-	-
National Science Board	4	4	-	-
Office of Inspector General	14	14	-	-
Total, NSF	\$7,033	\$7,373	\$340	4.8%

Totals may not add due to rounding.



FY 2013 Request: Total R&D by Agency

Budget Authority in Billions of Dollars



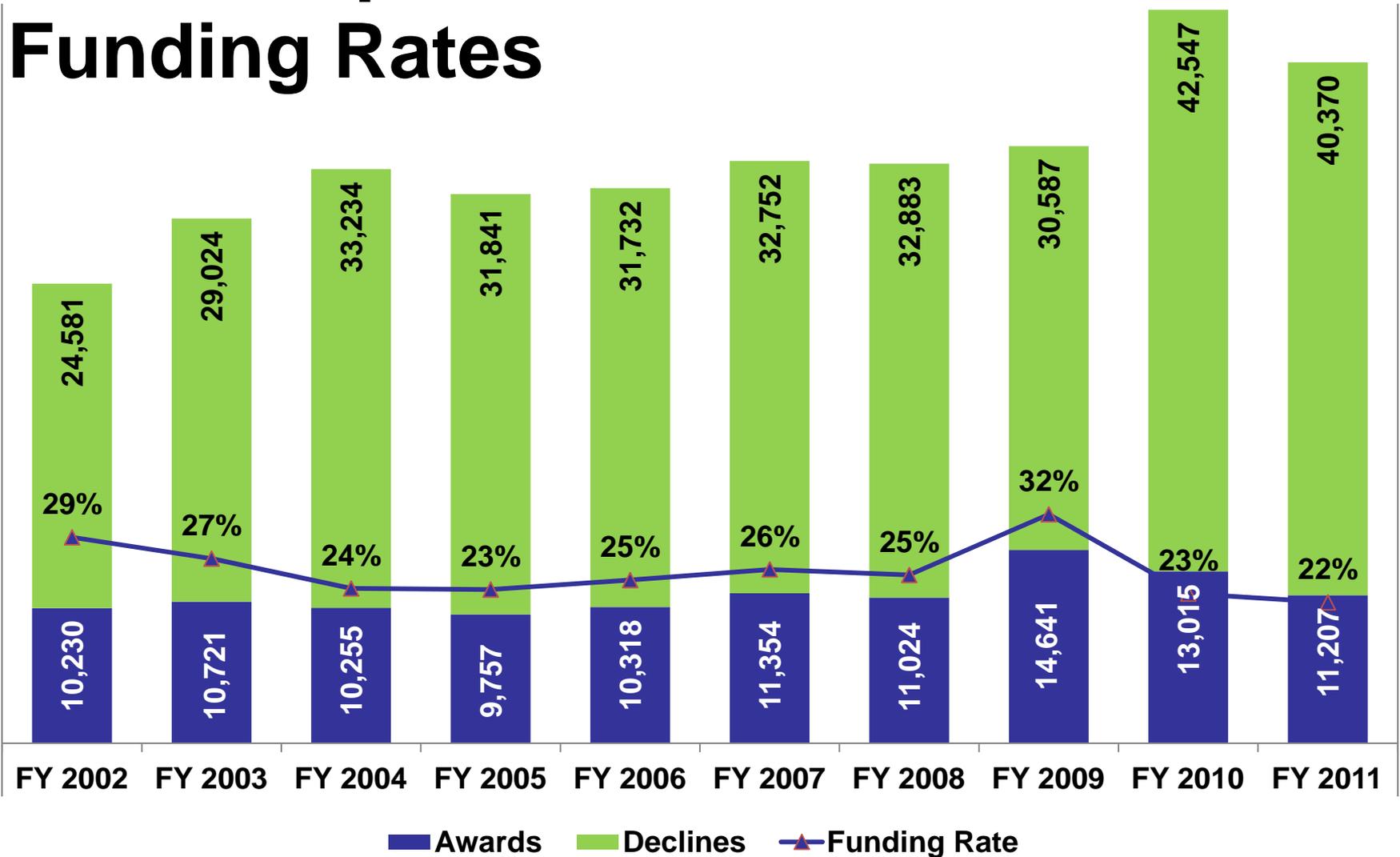
Total R&D = \$140.8 billion



WHERE DISCOVERIES BEGIN

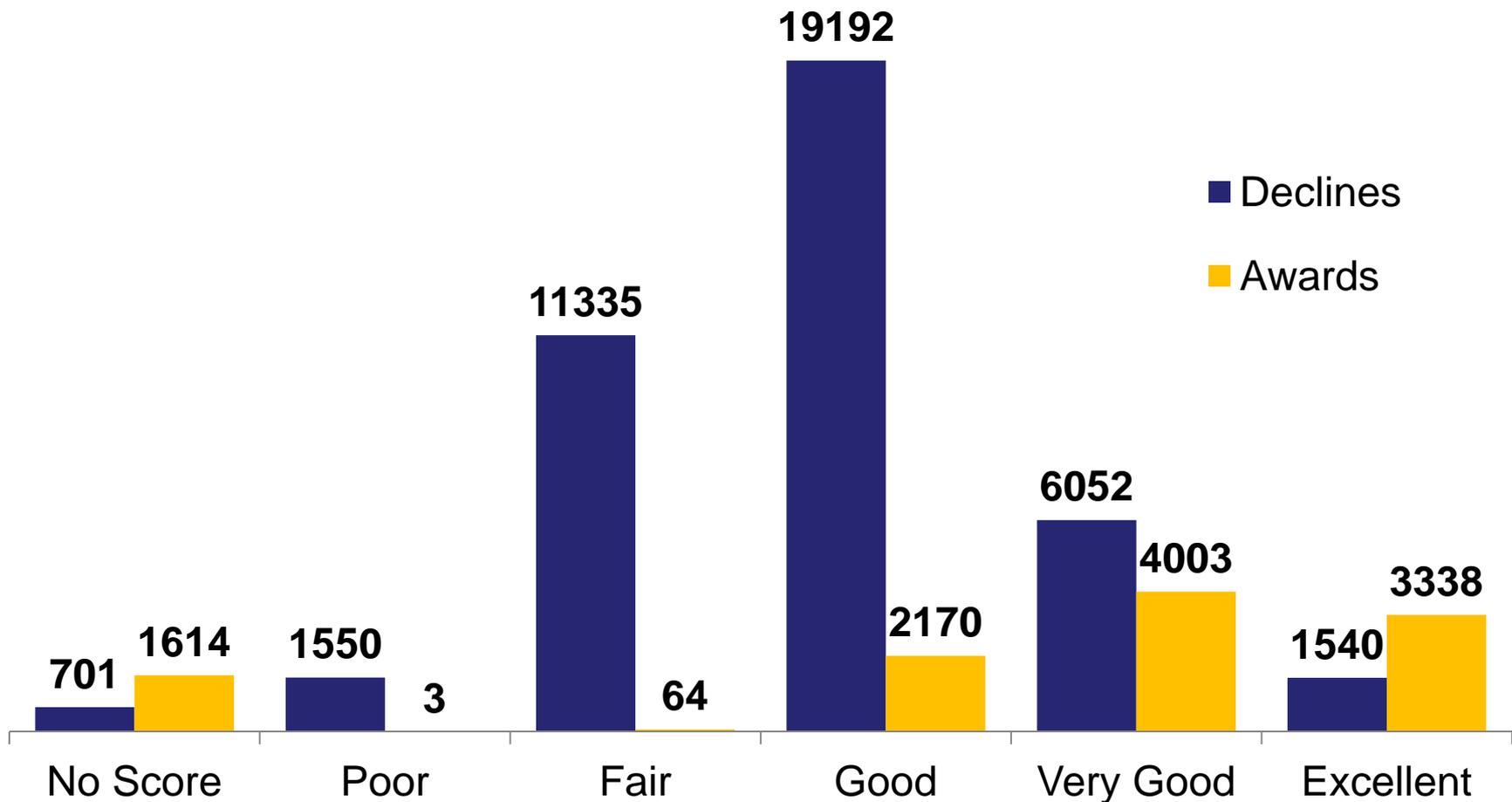


NSF Competitive Awards, Declines & Funding Rates



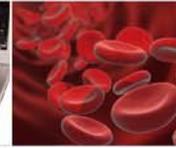


Distribution by Average Reviewer Ratings for Awards and Declines, FY 2011



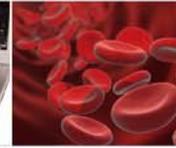


WHERE DISCOVERIES BEGIN



ARRA Acceleration: NSF Implementation of OMB Memorandum M-11-34



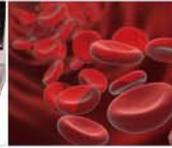


OMB Memorandum M-11-34

- Federal agencies directed to accelerate spending of remaining ARRA funds in discretionary grant programs
- Funds not spent by 9/30/2013 will be reclaimed to the extent permitted by law
- Waivers may be requested sparingly in case of:
 - Contractual commitments;
 - Complex environmental review;
 - Programs that are long-term by design and acceleration would compromise core programmatic goals; and/or
 - Special circumstances
- No guarantee of OMB approval of requested waivers

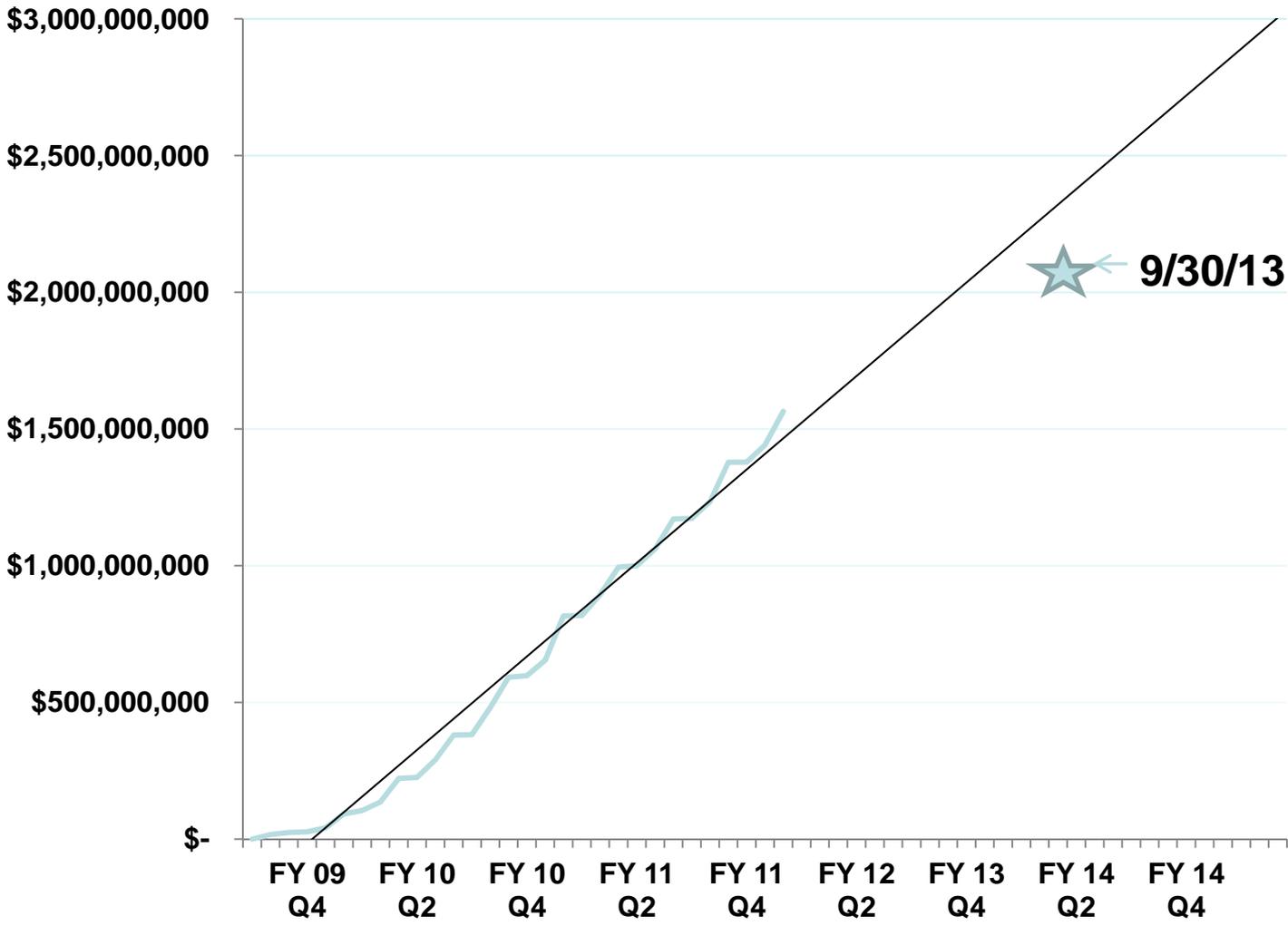


WHERE DISCOVERIES BEGIN

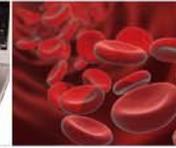


Current NSF ARRA Expenditures total \$1.44 billion Projections for 9/30/13 total Just Over \$2 billion

ARRA Appropriation



} ~\$1 B

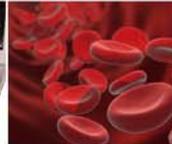


NSF Implementation of OMB M-11-34

- **Interagency coordination** – where necessary, see OMB guidance; coordinate implementation strategy with NIH & other agencies.
- **Aggressive stratification** – analyze NSF ARRA portfolio to determine all areas where we can encourage responsible acceleration.
- **Waiver application** – request OMB waivers as appropriate.
- **Award modification** – modify policies for ARRA awards as necessary; modify no-cost extension policies for all ARRA awards terminating during FY2012 or later.
- **Aggressive communication** – increased communication within NSF, between other agencies & to ARRA recipients.



WHERE DISCOVERIES BEGIN



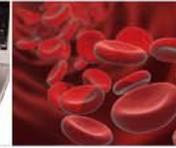
NSF Implementation of OMB M-11-34

What NSF Staff and Recipients Need to Know!

- Responsible expenditure acceleration now!!
- Award specific: Consider the program plan and the Ts & Cs and facts and circumstances of each specific award
- Communicate with the cognizant NSF program officer and check the NSF ARRA web page for guidance:
<http://www.nsf.gov/recovery/>
- Grantee approved no-cost extensions (NCE)
 - ARRA grantees may ONLY issue themselves NCE through 9/30/2013, but NOT beyond 9/30/2013
- Waiver requests
 - NSF will only go forward with requests that have a compelling and defensible rationale in accordance with the OMB waiver criteria.

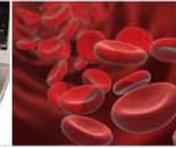


WHERE DISCOVERIES BEGIN



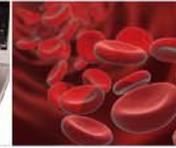
NSF Merit Review Criteria Revision





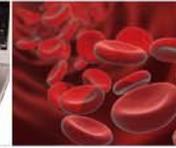
NSB Task Force on Merit Review

- Established Spring 2010
- Rationale:
 - More than 13 years since the last in-depth review and revision of the review criteria
 - Opportunity to align review criteria with NSF's new Strategic Plan
 - Persistent anecdotal reports about confusion related to the Broader Impacts criterion, and inconsistency in how the criterion was being applied.



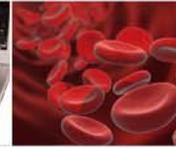
Issues

- What are the strengths and weaknesses of the current criteria?
- How are the two merit review criteria used by PIs, reviewers, NSF staff?
- What is the role of the PI's institution?
- Have the criteria had an impact on the way PIs think about shaping their research projects?
- How can the outcomes of activities relevant to each criterion be assessed?



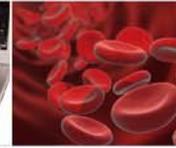
Stakeholder Input

- Interviews
 - 20 NSF senior leaders (BIO, CISE, EHR, ENG, GEO, MPS, SBE, OCI, OIA, OISE, OGC, BFA)
 - Representatives of a small set of diverse institutions
- Surveys
 - NSF POs, DDs, AC members (NSF Officials)
 - 520 responses, 61% response rate
 - NSF PIs and reviewers
 - 3989 responses, 51% response rate
- NSF website
 - 611 people provided responses to one or more questions (>2200 total comments)



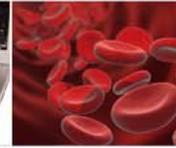
Additional Sources of Data

- 195 Committees of Visitors reports (from 2001-2009)
 - What issues were raised related to the two review criteria?
- ~100,000 proposals submitted between 2006 and 2009
 - How did PIs define “Broader Impacts”?



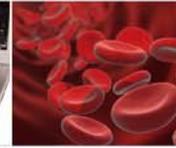
Sec. 526 of America COMPETES Reauthorization Act of 2010

- Instructs NSF to have a Broader Impacts review criterion to address several societal goals
- Further instructs NSF to develop and implement a policy for this criterion related to:
 - Strategies and approaches employed to address the Broader Impacts criterion
 - Assessment and evaluation
 - Institutional engagement
 - Education of NSF staff and potential NSF-supported investigators about new policies



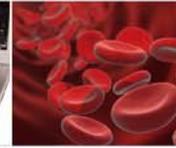
Final Report

- Task Force used the input from the community to revise the description of the review criteria and underlying principles
- Presented the final report to the National Science Board on December 13, 2011
 - Background and Context
 - Conclusions
 - Recommendations
 - Implementation Guidance to NSF



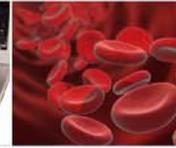
Final Report: Conclusions

- The Intellectual Merit and Broader Impacts review criteria together capture the important elements that should guide the evaluation of NSF proposals.
- Revisions to the descriptions of the Broader Impacts criterion and how it is implemented are needed.
- Use of the review criteria should be informed by a guiding set of core principles.



Final Report: Recommendations

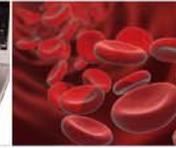
1. Three guiding review principles
2. Two review criteria
3. Five review elements



Merit Review Criteria

Guiding Principles

- All NSF projects should be of the highest quality and have the potential to advance, if not transform, the frontiers of knowledge.
- NSF projects, in the aggregate, should contribute more broadly to achieving societal goals.
- Meaningful assessment and evaluation of NSF funded projects should be based on appropriate metrics, keeping in mind the likely correlation between the effect of broader impacts and the resources provided to implement projects.



Merit Review Criteria

When evaluating NSF proposals, reviewers should consider what the proposers want to do, why they want to do it, how they plan to do it, how they will know if they succeed, and what benefits would accrue if the project is successful. These issues apply both to the technical aspects of the proposal and the way in which the project may make broader contributions. To that end, reviewers are asked to evaluate all proposals against two criteria:

- **Intellectual Merit:** The intellectual Merit criterion encompasses the potential to advance knowledge; and
- **Broader Impacts:** The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

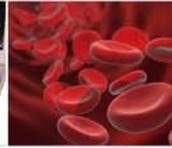


Merit Review Criteria

Five Review Elements

The following elements should be considered in the review for **both criteria**:

1. What is the potential for the proposed activity to:
 - a. advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
 - b. benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
4. How well qualified is the individual, team, or institution to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home institution or through collaborations) to carry out the proposed activities?



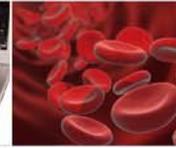
Status and Next Steps

- NSB approved report on December 14, 2011
- Published on January 10, 2012:
 - <http://www.nsf.gov/nsb/publications/2011/meritreviewcriteria.pdf>
- Important Notice issued on March 27, 2012
 - <http://www.nsf.gov/pubs/2012/in132/in132.pdf>
- Next Steps:
 - NSF is developing an implementation plan
 - Revised criteria and principles will be included in the next revision of the Proposal and Award Policies and Procedures Guide (PAPPG)



Merit Review Process Working Group





Relevant Trends

- The number of proposals submitted is up
- The number of PIs submitting proposals is up

... and Consequences

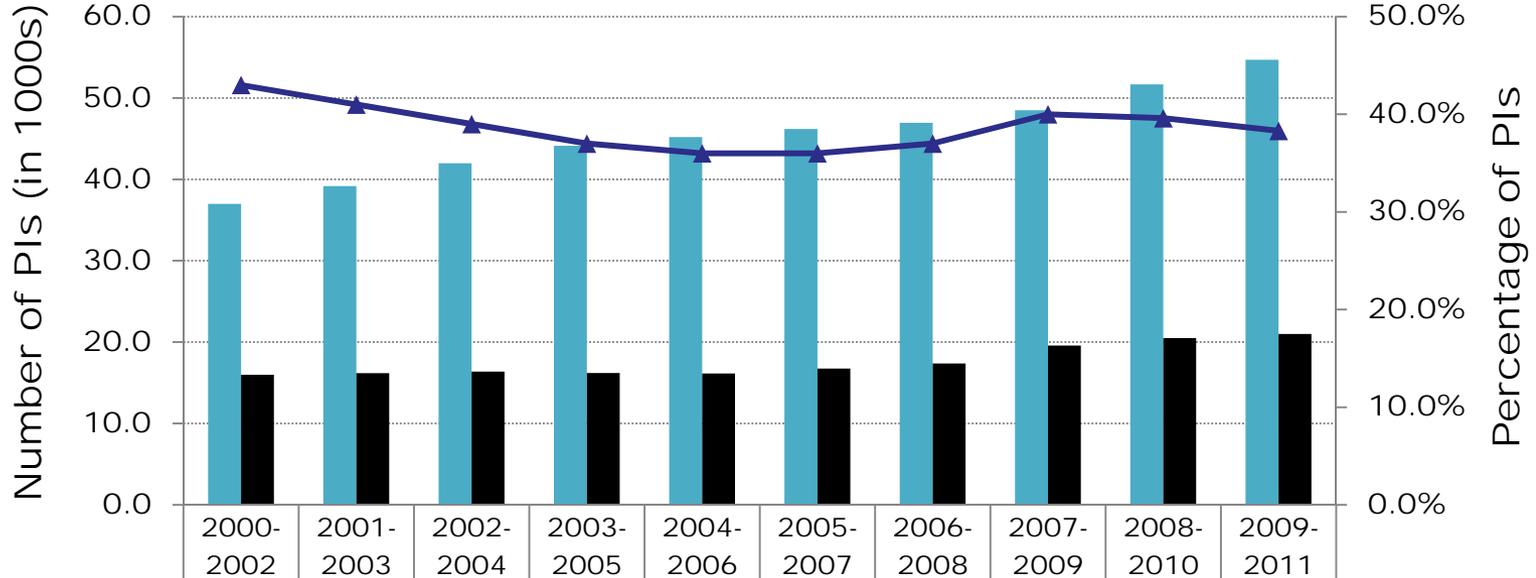
The merit review process is under stress

- **PIs:**
 - The number of proposals submitted per PI before an award is rising
 - The proportion of PIs not receiving funding in three years is rising
- **Reviewers:**
 - Increasing number of proposals increases reviewer workload
 - Increased use of panel-only review increases time and travel commitment for those participating, narrows overall participation
- **NSF staff:**
 - Workload is high



Main Source of Proposal Pressure

PIs submitting research proposals per 3-year period



■ PIs Applied	37.0	39.2	42.0	44.1	45.2	46.2	47.0	48.5	51.7	54.7
■ PIs Awarded	16.0	16.2	16.4	16.2	16.1	16.8	17.4	19.6	20.5	21.0
▲ PIs Funded %	43.0%	41.0%	39.0%	37.0%	36.0%	36.0%	37.0%	40.0%	39.6%	38.3%

Over the decade -

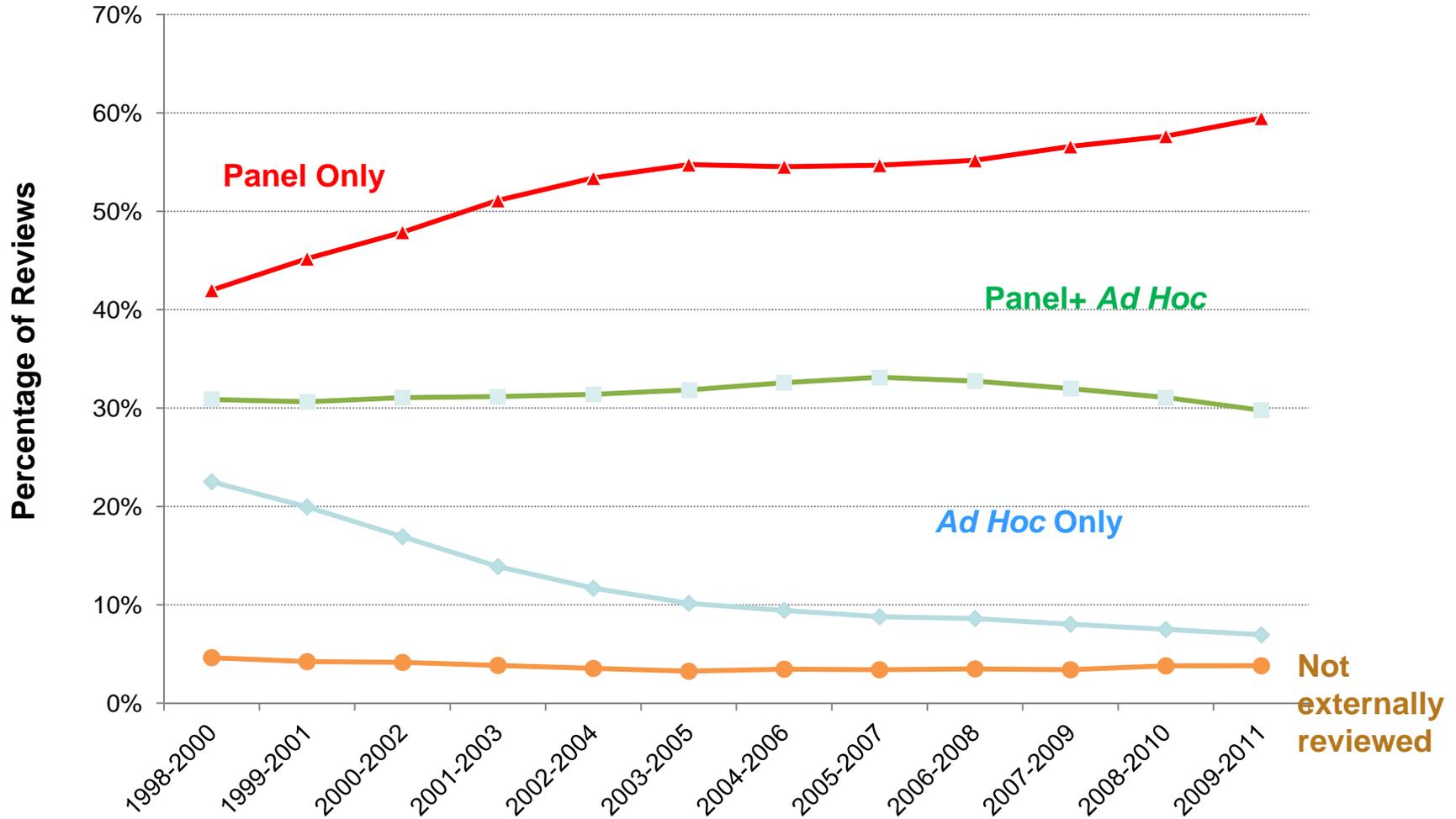
PIs applying: up 48%

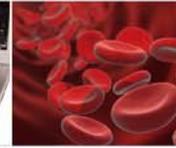
PIs awarded: up 31%

PIs not funded: up 60%



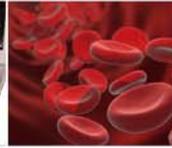
Review Methods





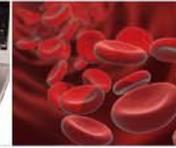
Response

- Look for opportunities to:
 - Be receptive to potentially transformative ideas
 - Reduce the workload on the research community & NSF staff
 - Broaden participation in the review process
 - Take advantage of advances in information technology
- Collect ideas from research community and NSF staff
- Make quantitative and qualitative estimates of impacts:
 - Reviewer workload, NSF staff workload, Travel costs
 - Feedback to PIs, Broadening participation in the review process



Response

- Discuss with NSF Staff and Advisory Committees
- Formulate provisional recommendations



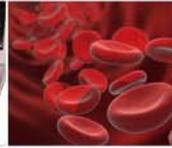
Provisional Recommendations

Process Enhancement

- Increase the use of virtual panels from the current 1% to 5% or more
- Use a streamlined *ad hoc* review process to rapidly screen proposal submissions
- Make greater use of preliminary proposals for core programs
- Asynchronous panels
- Automated compliance checking



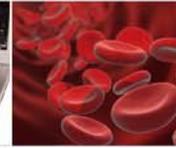
WHERE DISCOVERIES BEGIN



Provisional Recommendations

Demand Management

- Enhanced outreach to institutions
- Resubmission of declined ideas by invitation only

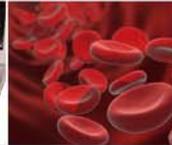


Next Steps

- Engage divisions and programs interested in pilot activities
- Jointly develop implementation plans for pilots
- Continue to engage research community
- Complete detailed analysis of other potential merit review process enhancements
- Senior management review of recommendations
- Launch pilot activities
- Evaluate pilot activity impact



WHERE DISCOVERIES BEGIN



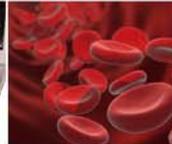
Update

Research.gov is NSF's grants management system providing easy access to research-related data and grants management services. Research.gov is the modernization of FastLane, providing the next generation of grants management capabilities for the research community.

- Research.gov Grants Management Services
 - Grants Application Status
 - Financial Services, including the Federal Financial Report (FFR)
 - Project Outcomes Report for the General Public
 - Application Submission Web Services
- This is Just the Beginning...
 - Research.gov will continue to develop and implement grants management service offerings that fulfill demand in the research community.



WHERE DISCOVERIES BEGIN



Research.gov Webinar Series

NSF is hosting a series of Research.gov webinars for grantees

- **April 19: How Can Research.gov Help Me?**
- **May 17: User's Guide to Financial Services on Research.gov**
- **September 24: ACM\$ Preview: A New Approach to Award Payments**
- **Fall 2012 (TBD): Project Reports are Moving: What's In It for Me?**

Email feedback@research.gov if you are interested in participating



WHERE DISCOVERIES BEGIN



Revision of NSF Award Terms & Conditions





WHERE DISCOVERIES BEGIN



Updated Award Terms & Conditions

- Effective for all new grants and funding amendments to existing grants awarded on or after February 1, 2012
- Incorporate revised circumstances under which use of a foreign-flag air carrier is permissible
- New article, **Academic Technology Transfer & Commercialization of University Research**, requiring higher education institutions that have NSF research support and at least \$25,000,000 in total Federal research grants in the most recently completed Federal fiscal year, to submit to NSF the URL that contains information on their transfer of technology and commercialization of research results efforts.

LOGIN AS



NSF Visitor

How Do I Login? | [Register](#)

[Adjust Font Size:](#)

Academic Technology Transfer and Commercialization of University Research

Section 520 of the America COMPETES Reauthorization Act of 2010 requires higher education institutions that have NSF research support and at least \$25,000,000 in total Federal research grants in the most recently completed Federal fiscal year to submit to NSF the universal resource locator (URL) that contains information on their transfer of technology and commercialization of research results efforts.

The URLs are displayed as submitted to the National Science Foundation. Awardees are responsible for the information contained on these websites. NSF has not approved or endorsed the content of these websites.

This requirement is effective for all new awards and funding amendments to existing NSF grants awarded on or after February 1, 2012. It has been implemented via a new NSF award term and condition, which states:

"a. 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 (i.e., any grant or cooperative agreement awarded by NSF) and has received at least \$25,000,000 in total Federal research grants in the most recently completed Federal fiscal year shall keep, maintain, and report annually to the National Science Foundation the universal resource 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, including:

1. contact information for individuals and university offices responsible for technology transfer and commercialization;
2. information for both university researchers and industry on the institution's technology licensing and commercialization strategies;
3. success stories, statistics, and examples of how the university supports commercialization of research results;
4. technologies available for licensing by the university where appropriate; and
5. any other information deemed by the institution to be helpful to companies with the potential to commercialize university inventions.

For purposes of determining whether an institution meets the threshold for this requirement, both the NSF research support and the Federal research grants must have been active at some point during the most recently completed Federal fiscal year.

The institution's URL containing the information required in section a. must be electronically submitted to the following email alias: ACAS520@nsf.gov. The URLs will be available to the public on the Science, Engineering and Education (SEE) Innovation section of Research.gov at: <http://www.research.gov/acasection520>.

b. Trade Secret Information - Notwithstanding section a., an institution shall not be required to reveal confidential, trade secret, or proprietary information on its website."

Awardee-Submitted URLs



- [Auburn University](#)
- [Boston University](#)
- [Brigham Young University](#)
- [California Institute of Technology](#)
- [Carnegie Mellon University](#)
- [Colorado School of Mines](#)

> [Who We Are](#)

> [Service Offerings](#)

> [News](#)

> [SEE Innovation](#)

APPLY FOR GRANTS

[Grants.gov](#)

[NSF FastLane](#)

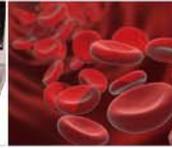
[NASA Inspires](#)

FEEDBACK

[Tell Us What You Think](#)



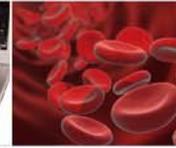
WHERE DISCOVERIES BEGIN



Cost Sharing Implementation at NSF

Progress Update





Cost Sharing Update

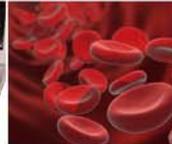
- As recommended by the National Science Board and implemented by NSF, inclusion of voluntary committed cost sharing is prohibited in solicited & unsolicited proposals, unless approved in accordance with agency policy.
- Only 6 programs have been approved to require cost sharing:
 - Major Research Instrumentation Program (MRI);
 - Robert Noyce Scholarship Program;
 - Engineering Research Centers (ERC);
 - Industry/University Cooperative Research Centers (I/UCRC);
 - Experimental Programs to Stimulate Competitive Research (EPSCoR); and
 - Innovation Corps (I-Corps)



Cost Sharing Update – Facilities, Equipment & Other Resources

- Provide a comprehensive description of all resources (**both physical and personnel**) necessary for, and available to the project
- No reference to cost, date of acquisition, and whether the resources are currently available or would be provided upon receipt of award

The screenshot shows a web browser window with several tabs open: Suggested Sites, Amazon.com, Best of the Web, Channel Guide, Expedia, and Internet Service \$9.95. The active page is titled 'FacText - 1' and contains a form for 'Facilities, Equipment, and Other Resources'. The form includes a title bar, a header section, and three text input areas labeled 'Laboratory:', 'Clinical:', and 'Animal:'. The text input areas are empty and have vertical scroll bars on the right side. The form is set against a light gray background.

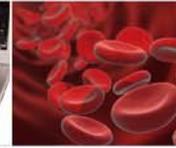


Cost Sharing Update

- Next version of the Proposal & Award Policies & Procedures (PAPP) Guide will include a revision to the Facilities, Equipment & Other Resources section, to clarify what should be included
- Working to address issue of PI time on budget in FastLane.
- Anticipated issuance of the next PAPP Guide is October 2012, and effective January 2013
- Cost sharing FAQs:
http://www.nsf.gov/publications/pub_summ.jsp?ods_key=costsharefaqs
- Send additional questions to costsharing@nsf.gov



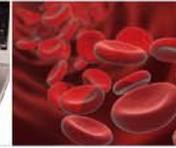
WHERE DISCOVERIES BEGIN



Research Performance Progress Report (RPPR) at NSF

Progress Update



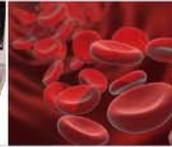


NSF Implementation of RPPR Components

- NSF plans to implement the RPPR as a new service in Research.gov, utilizing 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



WHERE DISCOVERIES BEGIN



NSF Implementation Progress Update

- Research.gov will offer the RPPR format starting January 2013, replacing NSF's annual, interim, and final project reporting capabilities which currently reside 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
 - Another key driver is to incorporate more structured collection of the project reports data for enhanced NSF use
- NSF recently completed the RPPR requirements phase and the RPPR design phase is underway with an anticipated first phase of rollout beginning in the summer



WHERE DISCOVERIES BEGIN



RPPR Website

Office of Budget, Finance and Award Management (BFA)

[DIAS Home](#)

[CAAR Branch](#)

[Policy Office](#)

[Systems Office](#)

[View DIF Staff](#)

[Division of Acquisition and Cooperative Support](#)

[Division of Financial Management](#)

[Division of Grants & Agreements](#)

[Division of Institution & Award Support](#)

Research Performance Progress Report (RPPR)

The RPPR resulted from 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. Given the increasing complexity of interdisciplinary and interagency research, it is important for Federal agencies to manage awards in a similar fashion. Upon implementation, the RPPR will be used by agencies that support research and research-related activities for use in submission of interim progress reports. It is intended to replace other interim performance reporting formats currently in use by agencies. The RPPR does not change the performance reporting requirements specified in 2 CFR part 215 (OMB Circular A-110) and the Common Rule implementing OMB Circular A-102.

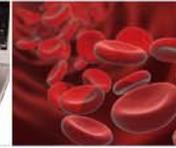
Each category in the RPPR is a separate reporting component. Agencies will direct their reporting to the appropriate reporting component.

[OSTP/OMB Policy Letter](#)

Agency RPPR Implementation Plans

- [DHHS/NIH \(and Other PHS Agencies\)](#)
 - [January 2012 update](#)
- [DHS](#)
- [DOC](#)
- [DOD](#)
- [DOE](#)
- [DoEd/Institute of Education Sciences](#)
- DOJ
 - [Office of Justice Programs](#)
 - [National Institute of Justice/Office of Justice Programs](#)
- [EPA](#)
- [NASA](#)
- [NEH](#)
- [NSF](#)
- USDA
 - [Forest Services](#)
 - [NIFA](#)

<http://www.nsf.gov/bfa/dias/policy/rppr/index.jsp>



Key Documents

[NSF/MR-11-22](#)



National Science Foundation's
Merit Review Criteria:
Review and Revisions

December 14, 2011

- **Proposal & Award Policies & Procedures Guide (PAPPG)**
- **FY 2013 Budget Request to Congress**
- **NSF Strategic Plan: FY 2011 – FY 2016**
- **Report to the NSB on NSF Merit Review Criteria**



WHERE DISCOVERIES BEGIN



National Science Foundation GRANTS CONFERENCE

George Mason University • Arlington, Virginia • October 22-23, 2012



Home	Register	Payment Info	Hotel	Airport Info	Area Info	Conference Docs
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National Science Foundation Grants Conference

Hosted By:

George Mason University

October 22-23, 2012

Location:

[Holiday Inn Rosslyn at Key Bridge](#)

1900 N Fort Myer Drive
Arlington, VA 22209

The first National Science Foundation Grants Conference of fiscal year 2013 will be held in Arlington, Virginia, and hosted by George Mason University on **October 22-23, 2012**.

Key representatives from the National Science Foundation (NSF), as well as your colleagues - faculty, researchers, and grant administrators - representing colleges and universities from around the U.S. will participate.

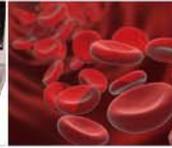
This two-day conference is a must, especially for new faculty, researchers, educators, and administrators who want to gain key insight into a wide range of current issues at NSF including

of grant funding, grant policies, and program areas and pertinent

<http://www.nsf.gov/bfa/dias/policy/outreach.jsp#regional>



WHERE DISCOVERIES BEGIN



Questions

