

# **National Science Foundation Update**

**B&O Advisory Committee Meeting  
November, 2008**

# Ask Early, Ask Often!

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# Main Topics

- America Competes Act Policy Update
- Recent Changes to the Proposal & Award Policies & Procedures Guide, Part I: Grant Proposal Guide

**NSF's  
America Competes Act  
Policy Provisions Update**

# America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Act: America COMPETES Act

- Signed into law on August 9, 2007
- Shares goals of the American Competitiveness Initiative (ACI)
- Focuses on three primary areas of importance:
  - Increasing research investment;
  - Strengthening educational opportunities in science, technology, engineering, and mathematics from elementary through graduate school;
  - Developing an innovation infrastructure.

# America COMPETES Act NSF Implementation

- 5 internal working groups have been formed in the following areas:
  - Budget
  - Major Research Equipment & Facilities Construction
  - Education & Human Resources
  - Computer & Information Science & Engineering/Cyber Infrastructure
  - Policy

# ACA Policy-Related Provisions of Interest to the Research Community

- SEC 7008: Postdoctoral Research Fellows
- SEC 7009: Responsible Conduct of Research
- SEC 7013: Cost Sharing

# SEC 7008: Postdoctoral Research Fellows

- “Mentoring - The Director shall require that all grant applications that include funding to support postdoctoral researchers include a description of the mentoring activities that will be provided for such individuals, and shall ensure that this part of the application is evaluated under the Foundation's broader impacts merit review criterion. Mentoring activities may include career counseling, training in preparing grant applications, guidance on ways to improve teaching skills, and training in research ethics.
- Reports - The Director shall require that annual reports and the final report for research grants that include funding to support postdoctoral researchers include a description of the mentoring activities provided to such researchers.”



# Section 7008 Implementation Strategy

- Section 7008 has been implemented via revisions to the relevant sections of the Grant Proposal Guide (GPG), the FastLane Project Reporting System, and the Representative Activities of Broader Impacts document that is posted on the NSF website.
  - Each proposal that contains postdoctoral researchers must include, as a separate section within the Project Description, a description of the mentoring activities to be provided to such individuals.
  - No change to the existing 15-page project description limitation!

# Section 7008 Implementation (continued)

- The following new paragraph has been added to the Project Description section of the GPG:

“Each proposal that requests funding to support postdoctoral researchers must include, as a separate section within the 15-page project description, a description of the mentoring activities that will be provided for such individuals. Examples of mentoring activities include, but are not limited to: career counseling; training in preparation of grant proposals, publications and presentations; guidance on ways to improve teaching and mentoring skills; guidance on how to effectively collaborate with researchers from diverse backgrounds and disciplinary areas; and training in responsible professional practices. The proposed mentoring activities will be evaluated as part of the merit review process under the Foundation's broader impacts merit review criterion. Proposals that do not include a separate section on mentoring activities within the Project Description will be returned without review.”

# Section 7008 Implementation (continued)

- The Review Criteria section of the GPG has been revised to add language stating that the mentoring activities described in the Project Description will be evaluated under the Broader Impacts criterion.
- The Return without Review section and the Proposal Preparation Checklist will emphasize that proposals that do not describe mentoring activities provided to postdoctoral researchers **will be** returned without review.

# Section 7008 Implementation (continued)

- The FastLane project reporting format is being modified to inform PIs of the requirement to report on the mentoring activities provided to postdoctoral researchers during the performance period.
  - This includes any postdoctoral researcher not identified in the original proposal submission!

# ACA Section 7008 Project Reporting Screenshots

## Extracts from the FastLane Project Reporting System

### Activities and Findings

This section will serve as your report to your program officer of your project's activities and findings. Please describe what you have done and what you have learned, broken down into four categories:

1. Describe the major research and education activities of the project. **What?** **Why?**
2. Describe the major findings resulting from these activities. **What?** **Why?**
3. Describe the opportunities for training and development provided by your project. **What?** **Why?**
4. Describe outreach activities your project has undertaken. **What?** **Why?**

3. Describe the opportunities for training, development and mentoring provided by your project.

If in doubt about the category in which to report a particular result, please use the **What?** buttons. If still in doubt, report in whichever category seems to you closest.

# ACA Section 7008

## Project Reporting Screenshots

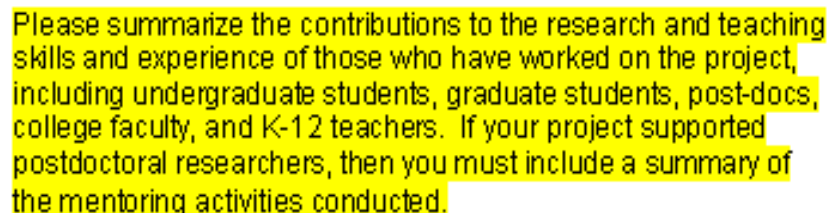
### Training and Development – What?

Please summarize how the project has contributed to the research and teaching skills and experience of those who have worked on the project, such as undergraduate students, graduate students, post-docs, college faculty, and K-12 teachers. If you have nothing (yet) to report, please click the corresponding button.

### Outreach Activities – What?

Please summarize any project activities that aimed to reach out to members of communities who are not usually aware of your activities, for the purpose of enhancing participation in science learning and careers in science, public understanding of science and technology, or the like. If you have nothing (yet) to report, please click the corresponding button.

Later screens will invite you to identify any books or concrete products that have resulted from such activities and to say how the project has contributed beyond its own boundaries to education and development of human resources.



Please summarize the contributions to the research and teaching skills and experience of those who have worked on the project, including undergraduate students, graduate students, post-docs, college faculty, and K-12 teachers. If your project supported postdoctoral researchers, then you must include a summary of the mentoring activities conducted.

# ACA Section 7008

## Project Reporting Screenshots

### Contributions to Human Resources Development – What?

Describe how your project has contributed to human resource development in science, engineering, and technology by:

- providing opportunities for research and teaching in science and engineering areas;
- improving the performance, skills, or attitudes of members of underrepresented groups that will improve their access to or retention in research and teaching careers;
- developing and disseminating new educational materials or providing scholarships; or
- providing exposure to science and technology for pre-college teachers, young people, and other non-scientist members of the public.]

### Contributions to Human Resources Development – Why?

A major aim of NSF programs is to contribute to the human resource base for science and technology, including the base of understanding among those who are not themselves scientist or engineers. A core SF strategy is to encourage integration of research and education. NSF needs to know and be able to describe how the work we support actually furthers that aim and that strategy. Moreover, contributions of this sort are important in the evaluation of results from your project when we and reviewers are considering a new proposal.

- Providing opportunities for research, teaching and mentoring in science and engineering areas;

# SEC 7009: Responsible Conduct of Research

- “The Director shall require that each institution that applies for financial assistance from the Foundation for science and engineering research or education describe in its grant proposal a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduate students, graduate students, and postdoctoral researchers participating in the proposed research project.”
- The Ethics Education in Science and Engineering (EESE) program sponsored a workshop on August 25/26<sup>th</sup> to address RCR and responsible professional practices. Focus of the workshop was on pedagogy and what are the best ways to teach ethics and responsible conduct of research, the best way to deliver knowledge about these subjects and some advice on implementation issues.



# SEC 7009: Responsible Conduct of Research (continued)

- Observations from the workshop:
  - On-line only training is less effective;
  - Ethics training should be integrated into scientific and engineering research;
  - Multiple approaches are needed;
  - Time available for training must be considered;
  - Content can vary by disciplinary areas and career age (undergrad versus postdoc);
  - PIs should be positively involved;
  - Mentoring can have negative effects on integrity, if the context of science and engineering is not considered
    - this directly leads to bad behavior; and
  - Consideration should be given to funding (and maintenance of) a web-based clearinghouse that is easily accessible, user-friendly, and houses the many resources that currently exist on ethics education.

# SEC 7009: Responsible Conduct of Research (continued)

- Draft workshop will be submitted to NSF by the end of the calendar year.
- Proposed implementation will consider the results from the workshop, as well as the following:
  - A new certification requirement at the time of proposal submission that would stipulate that the institution has a plan to provide appropriate training and oversight in responsible and ethical conduct to undergrads/grads/and postdocs participating in the NSF-funded project;
  - The role of the PI in describing the training proposed in the proposal; and
  - The post award requirements for complying with the training requirement -- or is this another broader impact such as mentoring.

# SEC 7009: Responsible Conduct of Research (continued)

- NSF continues to plan to solicit public comment on the draft implementation plan from the grantee community via the Federal Register.
- Anticipated release date of Federal Register notice is early winter 2009.

# SEC 7013: Cost Sharing

- Section 7013 of the America COMPETES Act directed the National Science Board (Board) to “evaluate the impact of its [2004] policy to eliminate cost sharing for research grants and cooperative agreements for existing programs that were developed around industry partnerships and historically required industry cost sharing, such as the Engineering Research Centers and Industry/University Cooperative Research Centers.” The Act directed that the Board “also consider the impact that the cost sharing policy has on initiating new programs for which industry interest and participation are sought.”
- The First NSB Cost Sharing Report was delivered to Congress on February 8, 2008.

# Cost Sharing Update (continued)

- The Board is continuing its study, focusing now on voluntary cost sharing, and the impact of both mandatory and voluntary cost sharing on broadening the participation of traditionally underrepresented groups and organizations.
- A second, more comprehensive Board report is expected to be issued by the end of calendar year 2008, informed in part by two additional public roundtables to be held in Arlington, VA on July 9 and 10, 2008.

# Cost Sharing Update (continued)

- NSB Request for public comment was published in the Federal Register on August 6, 2008
- Dr. Bement issued a Dear Colleague Letter encouraging the community to provide input.
- Comments in response to the Federal Register Notice were due on October 1, 2008.
  - The NSB received 80 comments in response to this notice.
  - Thanks to COGR/AAU/NASULGC for the thoughtful response!

# Status of Programs

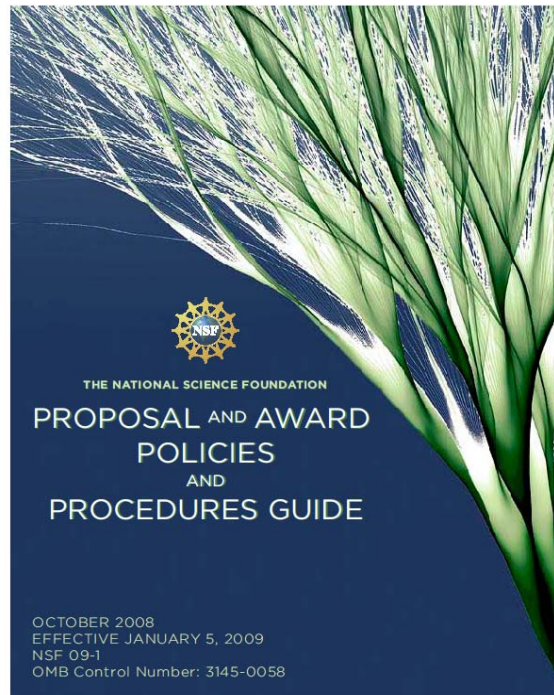
- **ERC Program:**
  - Last solicitation issued: 07-521
  - Status of revision process for new solicitation: Language is currently being developed for inclusion in the next issuance of the ERC solicitation.
- **I/UCRC Program:**
  - Last solicitation issued: 07-537 (issued as multi-year solicitation)
  - Next due date for full proposals is September 26, 2008. These proposals do not include a cost sharing requirement.
  - Status of revision process for new solicitation: New solicitation has been issued (08-591) which identifies the following cost sharing requirement:
    - University recovery of indirect costs (F&A) shall be limited to 10% on the total expenditures of industry center membership fees.
    - Letters of Intent are due on January 9, 2009.

# Status of Programs (Cont'd)

- **EPSCoR Program:**
  - New solicitation issued: 08-587
  - Cost sharing at a level of 50 percent of the amount requested from NSF is required for all proposals submitted in response to this solicitation. The proposed cost sharing must be shown on line M on the proposal budget. Documentation of the availability of cost sharing must be included in the proposal.



# Other Significant Changes to the Proposal & Awards Policies & Procedures Guide: Part I - Grant Proposal Guide



# Other Significant Changes

- Faculty salary CLARIFICATION
- Definition of PI

# Existing Faculty Summer Salary Policy

“As a general policy, NSF recognizes that salaries of faculty members and other personnel associated directly with the project constitute appropriate direct costs and may be requested in proportion to the effort devoted to the project.

NSF regards research as one of the normal functions of faculty members at institutions of higher education. Compensation for time normally spent on research within the term of appointment is deemed to be included within the faculty member’s regular organizational salary.

Summer salary for faculty members at colleges and universities on academic-year appointments is limited to no more than two-ninths of their regular academic-year salary. This limit includes summer salary received from all NSF-funded grants.”

**The existing policy was originally issued in 1978;  
Reference NSF 78-41: *Grants for Scientific Research***

# AAU/COGR Concerns on Summer Salary

- Contends that current guidance on faculty summer salary is “internally inconsistent”
- Leaves institutions vulnerable to shifting compliance standards – and the attendant risk of punitive action from the NSF OIG
- The Foundation’s historical practice of paying no more than 2/9s of regular academic-year is a striking exception to the other research funding agency
  - Most agencies allow appropriate salary charges on awards at any time during the year in accordance with when and how the research effort is actually expended.

# Revised Faculty Salary Policy

- Limits salary compensation for senior project personnel to no more than two months of their regular salary in any one year:
  - The limit includes salary compensation received from all NSF-funded awards.
  - Broadens the previous policy away from the concept of “two summer months” and allows senior project personnel to schedule work when appropriate throughout the year.
  - Any compensation in excess of two months must be specifically justified in the proposal, and if approved by NSF, will be included in the award budget.

# PI/co-PI Definition

- In January 2005, OSTP issued a new policy regarding the treatment – and recognition - of multiple Principal Investigators under Federal research awards.
- Agencies were tasked with development of their final implementation plans for posting to the RBM website.
- The Foundation has long permitted proposers to identify multiple PIs (through use of the terms PI and co-PI(s)) on proposals submitted to NSF.
  - The first set of proposal preparation guidelines that provided the ability to identify multiple PIs was issued in 1963.
  - NSF has an excellent track record in implementing this concept in our proposal preparation guidelines, electronic systems, recognition of separately submitted collaborative proposals from multiple institutions, as well as access to proposal and award information by PIs and co-PIs.

# PI/co-PI Definition (Continued)

- From an NSF perspective, the most significant issue regarding development of the Foundation's implementation plan related to assessment of our PI definition to ensure compliance with the OSTP definition.
- Upon consideration of this issue, NSF modified its PI definition to read as follows:

(co) Principal Investigator(s) -- the individual(s) designated by the proposer, and approved by NSF, who will be responsible for the scientific or technical direction of the project. NSF does not infer any distinction in scientific stature among multiple PIs, whether referred to as PI or co-PI. If more than one, the first one listed will serve as the contact PI, with whom all communications between NSF program officials and the project relating to the scientific, technical, and budgetary aspects of the project should take place. The PI and any identified co-PIs, however, will be jointly responsible for submission of the requisite project reports.

# New Proposal & Award Policies & Procedures Guide Implementation

- Posted on the NSF website on October 1, 2008
- Effective date is January 5<sup>th</sup>, 2009
- All new funding opportunities with target/deadline dates after January 5<sup>th</sup>, 2009 will be subject to the new requirements



# Accessing Documents on the NSF Website

- [www.nsf.gov](http://www.nsf.gov)
- Proposal & Award Policies & Procedures Guide
  - Proposal Preparation & Submission
    - Grant Proposal Guide
    - Frequently Asked Questions
  - Award Administration
    - Award & Administration Guide
    - Grant & Agreement Conditions
    - Frequently Asked Questions