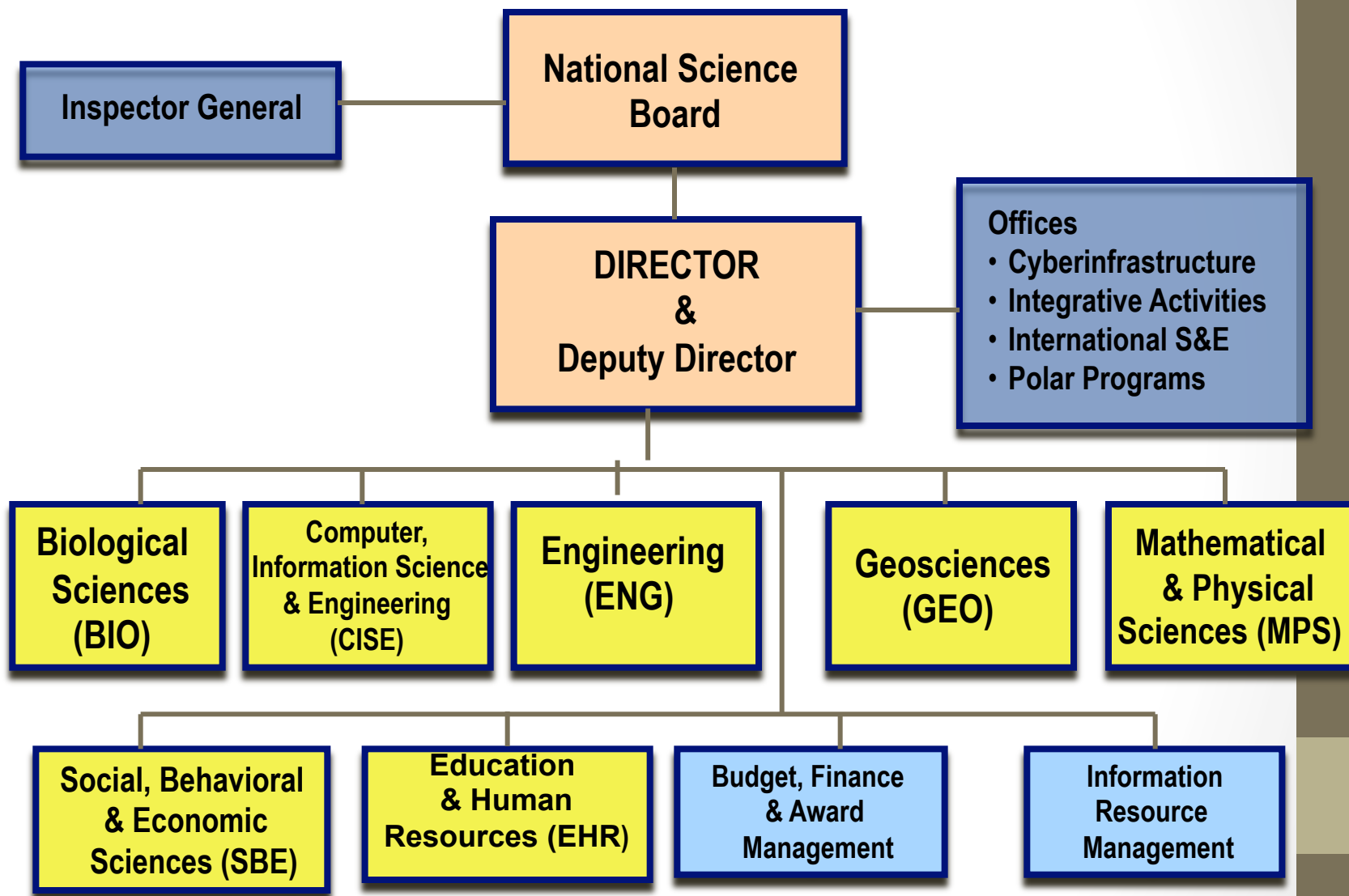


# Overview of the CAREER, MRI, and REU Programs at the National Science Foundation

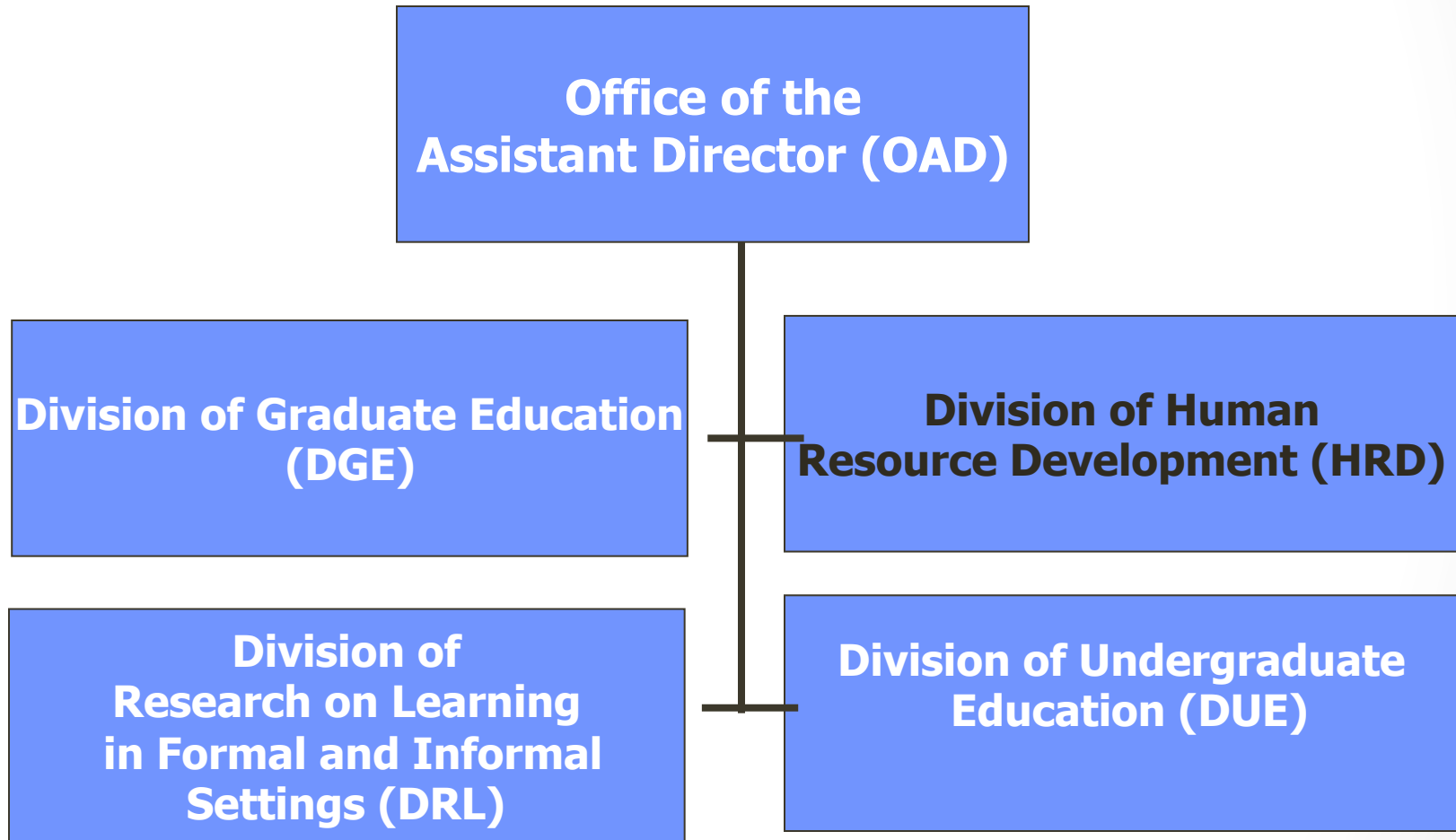
Claudia Rankins  
Program Director  
National Science Foundation  
November 20, 2014  
Jackson State University



# NSF Organization



# Directorate for Education and Human Resources (EHR)



# How to Find Out about Funding Opportunities

- Subscribe to National Science Foundation Update  
<https://public.govdelivery.com/accounts/USNSF/subscriber/new?qsp=823>
  - Choose your subscription topics
  - Change your topics at any time
  - Program announcements and solicitations no less than 90 days before target date/deadline
  - Watch for Dear Colleague Letters in areas of interest

# NSF Funding Opportunities

- **Program Description**

Published only on the NSF website.

Proposals must follow GPG (Grant Proposal Guide) instructions.

- **Program Announcement**

Published NSF document describing the program.

Proposals must follow GPG instructions.

- **Program Solicitation**

Published\* document with additional restrictions and/or requirements.

Proposals must follow both the solicitation and the GPG instructions

- **Dear Colleague Letter**

Notifications of opportunities or special competitions for supplements to existing NSF awards.



\*Solicitations are also published at [www.grants.gov](http://www.grants.gov)

# FastLane Submitted Proposals

## *The Proposal & Award Policies & Procedures Guide (PAPPG) and the Grant Proposal Guide (GPG)*

The Proposal & Award Policies & Procedures Guide (PAPPG) describes the proposal and award process

- **Part 1 - Grant Proposal Guide (GPG) provides guidance for preparation and submission of NSF proposals**
- Part 2 – Guidance on managing and monitoring awards

For proposals submitted or due on or after December 26, 2014, the guidelines in **NSF 15-1** apply.



# Some Examples of Significant Changes to the GPG

***Project Summary:*** FastLane modified to display three separate text boxes - proposers must provide an Overview and address the “Intellectual Merit’ and “Broader Impacts”

***Project Description:*** Must contain, as a separate section within the narrative, discussion of the Broader Impacts of proposed activities.

- Intellectual Merit and Broader Impact activities must be described in two separate sections in *Results from Prior NSF Support*.

***Facilities, Equipment and Other Resources:*** Indicates that an aggregated description internal and external resources available to the project (physical and personnel) should be provided - new format in FastLane to assist with compliance with NSF cost sharing policy available effective in January 2013.

***Review Criteria:*** Now Merit Review Principles and Criteria - new language added on merit review principles, and revised merit review criteria language inserted.

# Understand NSF

- Know the NSF Website ([www.nsf.gov](http://www.nsf.gov))
- Search Recent Awards ([www.nsf.gov/awardsearch](http://www.nsf.gov/awardsearch))
- Identify appropriate funding opportunities ([www.nsf.gov/funding](http://www.nsf.gov/funding))
- Talk to Program Officers in Division(s) “where you fit”
- Know the “Grant Proposal Guide”
- Know the program purpose, goals, and requirements – read the solicitation!
- Serve as a panelist when possible
- Talk to successful PIs
- Know NSF’s role compared to other Federal agencies





# What NSF Does Not Fund

Clinical, counseling, business administration or management, social work, education (except in science and engineering education), or history (except in history of science) areas are not supported. Clinical study that is ineligible includes patient-oriented research, epidemiological and behavioral studies, outcomes research and health services research. Community and other population-based intervention trials are also ineligible.

# What NSF Does Not Fund

Research with disease-related goals, including work on the etiology, diagnosis or treatment of physical or mental disease, abnormality, or malfunction in human beings is normally not supported. Animal models of such conditions or the development or testing of drugs or other procedures for their treatment also are not eligible for support. However, research in bioengineering, with diagnosis or treatment-related goals, that applies engineering principles to problems in biology and medicine while advancing engineering knowledge is eligible for support. Bioengineering research to aid persons with disabilities also is eligible.

# ***The Major Research Instrumentation (MRI) Program***

<http://www.nsf.gov/od/oia/programs/mri/>

**The MRI program is coordinated by the Office of Integrative Activities (OIA) in collaboration with Directorates and Offices across NSF.**



# Major Research Instrumentation Goals

- Supporting the ***acquisition*** (**Track 1**) of major state-of-the-art instrumentation, thereby improving access to, and increased use of, modern instrumentation shared by the Nation's scientists, engineers, and graduate and undergraduate students;

**OR**

- Fostering the ***development*** (**Track 2**) of the next generation of major instrumentation, resulting in new instruments that are more widely used, and/or open up new areas of research and research training;

**AND**

- Enabling academic departments, disciplinary & cross-disciplinary units, and multi-organization collaborations to ***integrate research with education***.

# MRI Proposals

- *What makes an MRI proposal fail before the review?*
- *Know the reasons why a proposal may be Returned without Review*
- *A checklist is provided in the solicitation – use it to be sure your proposal is complete and compliant.*



# MRI Proposals

## *What makes an MRI proposal fail during the review?*

- Proposals that do not demonstrate adequate ***institutional commitment***;
- Proposals that do not adequately demonstrate how and by whom the instrument will be utilized, operated and maintained – i.e., proposals without a ***strong management plan***;
- Proposals that do not demonstrate ***shared-use*** within the institution, and/or among institutions;
- Proposals that request instrumentation that is ***otherwise reasonably accessible***;
- Proposals that do not adequately ***match the budget*** to the scope of the project;
- Proposals that do not describe ***research training***, particularly for groups underrepresented in science & engineering or persons with disabilities.

**These proposals will be *not* review well!**

# MRI Proposals

## *What makes an MRI proposal competitive?*

Build your case on its merits

What is the intellectual merit of the proposed activity?

What are the broader impacts of the proposed activity?

- Describe (enthusiastically) compelling research / research training activities to be undertaken with the instrument. *Buy/Build it and they will come is not necessarily a good reason.*
- Demonstrate how your activities will make meaningful contributions within and across disciplines in both research and research training. *Why are you the ones best able/positioned to make a contribution?*
- Establishing a need is usually not enough. *Doesn't everyone need one?*
- Match your proposed effort to the mission/goals of your institution. *MRI awards build institutional capacity.*

# MRI Proposals

## *Some Additional Thoughts...*

- Demonstrate appropriate leadership and commitment to bring the project to completion. *Being a good research scientist is one thing, being a good manager is quite another...*
- How would the project enable the integration of research and education? *MRI is a Research and Research Training program.*
- How would the project enable integrating diversity into NSF programs, projects, and activities? *Saying it will is not enough!*
- Ask for what you need, no more no less. *Bells and whistles may be nice, but not needed..*
- Avoiding pitfalls will not guarantee a competitive proposal. *So your proposal is technically flawless, but is it compelling?*



# CAREER

## **Faculty Early Career Development Program**

**NSF 14-532**

**Look for new solicitation in Spring 2015**

- NSF's most prestigious awards in support of junior faculty exemplifying the role of teacher-scholar
- Enhances and emphasizes the importance of balanced academic careers
- Career development plan to integrate research and education
- [http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503214](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503214)

# CAREER

## ELIGIBILITY:

- As of Directorate Deadline
  - Hold doctorate in field supported by NSF
  - Be untenured until Oct 1 following the deadline
  - Not previously received an NSF CAREER award
  - Have not competed more than two times in NSF CAREER Program
- As of October 1 of submission year be employed:
  - In a tenure-track (or equivalent) position at US academic institution or US non-profit, non-degree granting organization
  - As an Assistant Professor (or equivalent)
  - **ASSOCIATE PROFESSORS WITH or WITHOUT TENURE ARE NOT ELIGIBLE**

# CAREER

- Tenure-Track Equivalency - For a position to be considered a tenure-track-equivalent position, it must meet all of the following requirements: (1) the employing department or organization does not offer tenure-track positions to any new hires; (2) the employee is engaged in research in an area of science or engineering supported by NSF; (3) the employee has a continuing appointment that is expected to last the five years of the grant; (4) the appointment has substantial educational responsibilities; and (5) the proposed project relates to the employee's career goals and job responsibilities as well as to the goals of the department or organization.

# CAREER

- **SIZE**
  - Lower Limit \$400K (total of direct and indirect costs)
    - BIO Directorate and PLR: \$500K (minimum total)
  - Upper Limit - none specified
- **DURATION**
  - 5 Years
- **SUPPLEMENTS**
  - Standard NSF supplements
- **PECASE**
  - HONORARY ONLY

# CAREER

- There are requirements for CAREER proposals that hold across the Foundation **\*but\*** there is no centralized reviewing process or central pot of money for making CAREER awards.
- CAREER *proposals* are reviewed by the disciplinary program(s) that provide the best fit with the topic of the proposal.
- CAREER *awards* are made using the budget resources of the reviewing program(s).

# Contact your Program Director

- Send an email to the director(s) of the disciplinary program(s) to ask about the program fit, ...
  - If there are multiple directors in a single program, send **\*one email\*** addressed to all directors (not a separate email to each director)
  - Include a one to two page project summary that discusses:
    - What big issue your project will address;
    - What hypotheses you will test, what methods you'll use, how you plan to analyze your data, ...;
    - How you plan to integrate your research with your educational / outreach activities.

# Contact your Program Director

- Other topics you may wish to raise with your program director (either by email or in a follow-up phone conversation):
  - Is co-review with another program appropriate? If so, which program(s)?
  - Are there program- or division-specific recommendations regarding budgets? ... education & outreach? ...

# History of REU at NSF

- Undergraduate Research Participation (URP) program launched in 1958; was zeroed out in 1981 budget
- Reinstated in 1987 as Research Experiences for Undergraduates (REU)
- Single program announcement; funding and management *distributed* across NSF directorates
- Encompasses all areas of research normally supported by NSF
- Investment in FY2013: ~\$80M
- Additional investments in undergraduate research through other NSF programs



# REU

- A “cross-cutting” program, managed and budgeted within the various NSF research units instead of centrally
- Program officer for REU in each NSF research unit (generally)
- “REU Team” (= REU program officers from the research units) discusses NSF-wide policies for the program and revises the program announcement periodically

# REU Sites

- Award to an organization specifically to support a group of students ( $> \sim 6$ ) in a research area
- Implemented as a formal annual proposal competition within research units NSF-wide
- Research area may be a single discipline or an interdisciplinary/multidisciplinary area with a *coherent intellectual theme*
- Sites design and run student selection process
- Site experiences are usually 8-10 weeks in summer, but academic-year sites are also OK
- Sites use awards to provide stipends for students, plus help with expenses for housing, food, travel, etc.
- Significant fraction of students come from outside the host institution
- Typical grant: About \$100k per year for 3 years

# Interdisciplinary/ Multidisciplinary REU Site Proposals

- Coherent intellectual theme is important.
- Questions about appropriateness or submission?  
Contact NSF REU program officer in the relevant research unit(s).
- Submit (usually) to the NSF research unit corresponding to the discipline/departments  
of the majority of the student research projects, or  
of the main PI.
- REU program officer in receiving unit decides best way to handle proposal. Proposal might be reviewed/funded by more than one NSF research unit.

# REU Supplements

- Support for (usually) one or two students within an NSF-funded research project
- Students usually from host institution
- Request either as a supplement to an active NSF grant, or within a regular (new or renewal) research proposal
- For advice, contact program officer assigned to the active NSF grant or program officer who manages the relevant research program
- Not appropriate for *education* grants, except education research.

# Review Criteria for Proposals

- NSF's standard merit review criteria:
  - Intellectual Merit
  - Broader Impacts
- REU-specific criteria (which feed into IM and BI):
  - Appropriateness and value of the research/educational experience for the student participants
  - Quality of the research environment (mentors, facilities, etc.)
  - Appropriateness of the student recruitment and selection plan
  - Quality of plans for student preparation and follow-through
  - For REU Sites: effectiveness of the plans for project management and evaluating outcomes, cost-effectiveness of the budget

# REU Home Page

- Two ways to get there:
  - <http://www.nsf.gov/> -- Type “REU” in *Search* box at top of page. Correct links will be at top of results list.
  - <http://www.nsf.gov/home/crssprgm/reu/start.htm>
- Program solicitation (instructions, deadlines)
- “Search for an REU Site”
- List of NSF REU contacts

# NSF Merit Review Criteria

- Intellectual Merit – the potential to advance knowledge
- Broader Impacts – the potential to benefit society and contribute to the achievement of specific, desired societal outcomes
- ***BOTH CRITERIA, INTELLECTUAL MERIT AND BROADER IMPACT, WILL BE GIVEN FULL CONSIDERATION DURING THE REVIEW AND DECISION-MAKING PROCESSES. EACH CRITERION IS NECESSARY BUT NEITHER, BY ITSELF, IS SUFFICIENT. PROPOSERS MUST FULLY ADDRESS BOTH CRITERIA.***

# Merit Review Considerations

- What is the potential for the proposed activity to:
  - Advance knowledge and understanding within its own field or across different fields (*Intellectual Merit*); and
  - Benefit society or advance desired societal outcomes (*Broader Impacts*)?
- To what extent does the proposed activity suggest and explore creative, original or potentially transformative concepts?



# Merit Review Considerations

- 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?
- How well qualified is the individual, team, or organization to conduct the proposed activities?
- Are there adequate resources available to the PI (either at the home institution or through collaborations) to carry out the proposed activities?

# Stay Connected

- Submit Proposals
- Serve as Reviewers and Panelists
- Be Active as Workshop Participants and Organizers
- Consider Being a Rotator

[http://www.nsf.gov/about/career\\_opps/rotators/index.jsp](http://www.nsf.gov/about/career_opps/rotators/index.jsp)

For information on a particular EHR division and program, go to the EHR website and choose a division.

<http://www.nsf.gov/dir/index.jsp?org=EHR>

**Contact NSF Program Directors for questions and suggestions.**

# Useful Resources

- NSF: [www.nsf.gov](http://www.nsf.gov)
- Guide to Program:  
[www.nsf.gov/funding/browse\\_all\\_funding.jsp](http://www.nsf.gov/funding/browse_all_funding.jsp)
- Award Information: [www.nsf.gov/awardsearch](http://www.nsf.gov/awardsearch)
- FastLane: [www.fastlane.nsf.gov](http://www.fastlane.nsf.gov)
- Data Management Plan:  
[www.nsf.gov/bfa/dias/policy/dmp.jsp](http://www.nsf.gov/bfa/dias/policy/dmp.jsp)
- Funding Opportunities: [www.nsf.gov/funding](http://www.nsf.gov/funding)

# Contact Information

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703-292-8109