National Science Foundation's HSI Program

Talitha Washington

Division of Undergraduate Education (DUE)

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NSF Mission

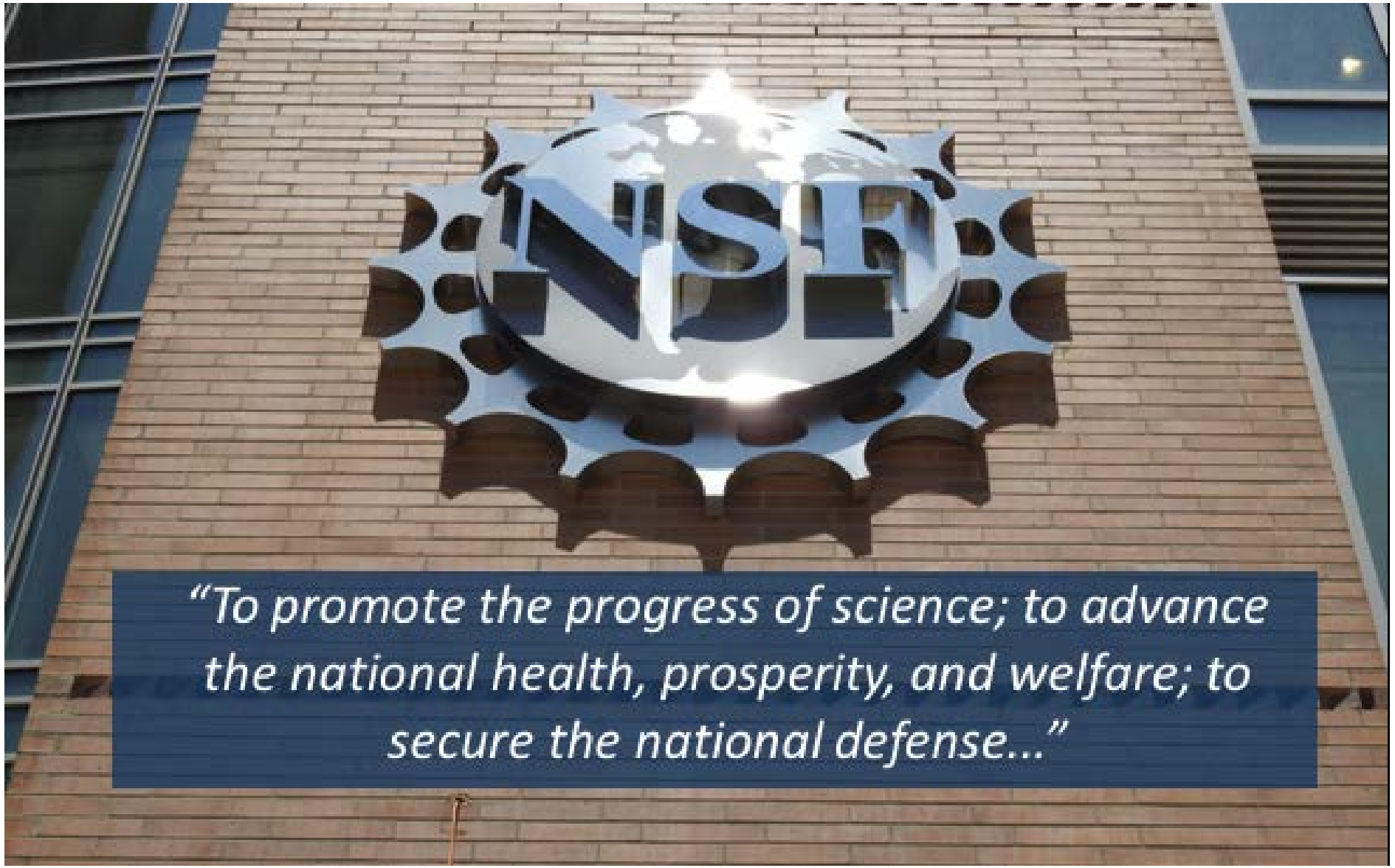

Photo Credit: Maria Barnes, NSF

Alert: This presentation is **not** all-inclusive

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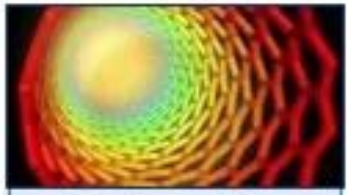
NSF Funds All Fields of S&E

Biological Sciences

Computer & Information Science & Engineering

Education & Human Resources



Engineering

Geosciences (including Polar Programs)

Integrative Activities

International Science and Engineering

Social, Behavioral & Economic Sciences

Mathematical & Physical Sciences

Ten Big Ideas for Future NSF Investments

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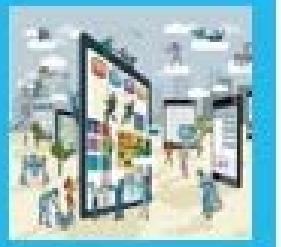
RESEARCH IDEAS

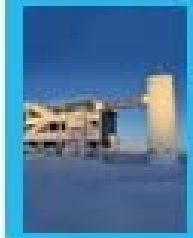
Harnessing Data for 21st Century Science and Engineering

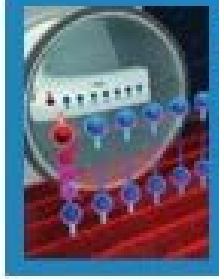
Work at the Human-Technology Frontier: Shaping the Future



Navigating the New Arctic

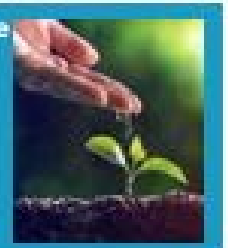
Windows on the Universe: The Era of Multi-messenger Astrophysics





The Quantum Leap: Leading the Next Quantum Revolution

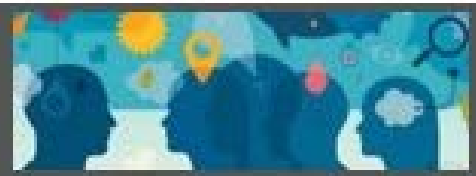
Understanding the Rules of Life: Predicting Phenotype



PROCESS IDEAS

Mid-scale Research Infrastructure

NSF 2026



Growing Convergent Research at NSF

NSF INCLUDES: Enhancing STEM through Diversity and Inclusion

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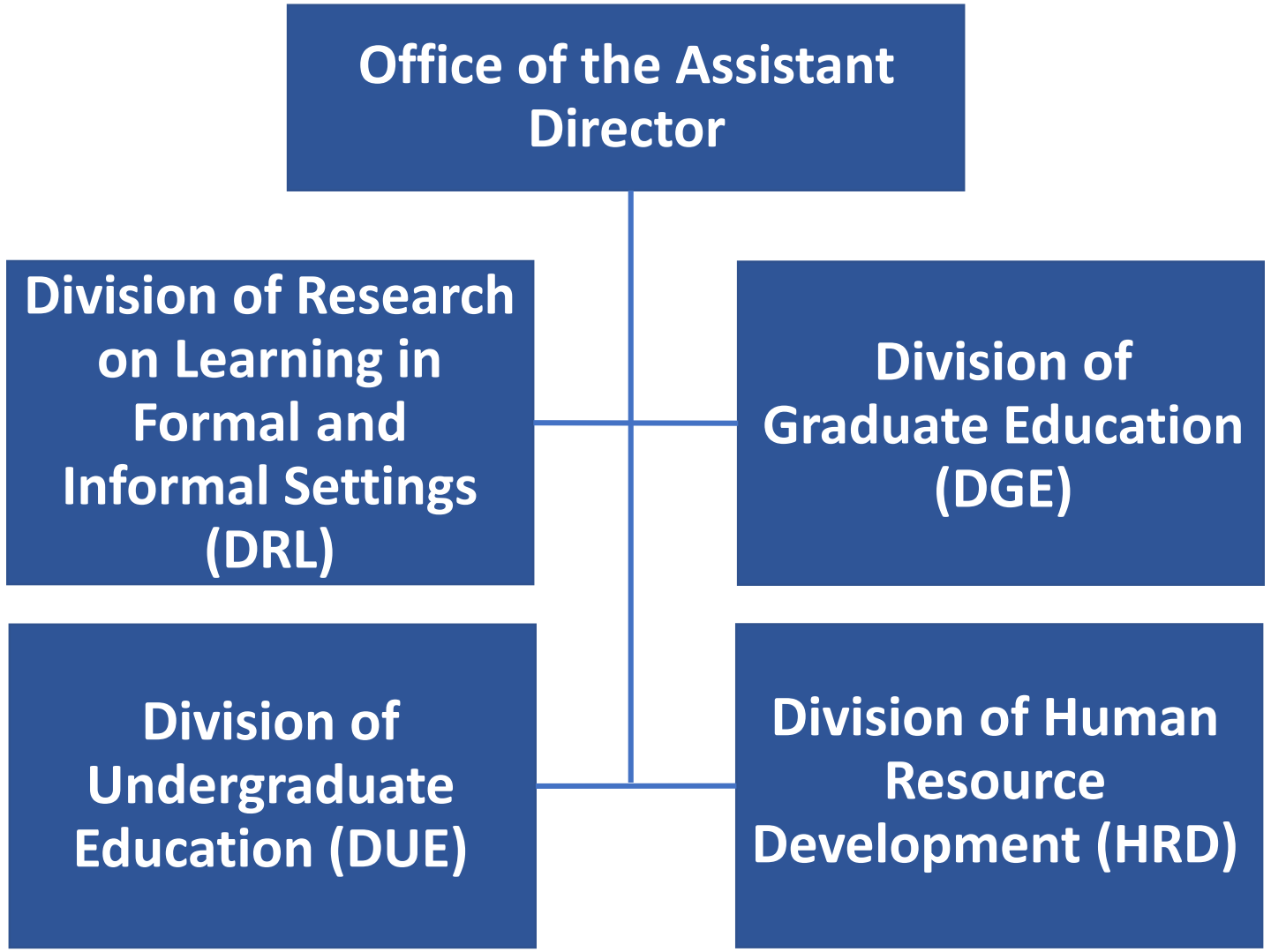

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Division of Undergraduate Education (DUE)

- **Advanced Technological Education** (NSF 18-571)
  - Focuses on the education of technicians for the high-technology fields that drive our nation's economy
- **Improving Undergraduate STEM Education: EHR** (NSF 19-601)
  - Improve the effectiveness of undergraduate STEM education, educate students to become leaders and innovators in STEM, and to provide a foundation in scientific literacy for all students
- **Noyce Teacher Scholarship Program** (NSF 17-541)
  - Encourages talented STEM majors and STEM professionals to become K-12 STEM teachers
- **Scholarships in STEM** (NSF 17-527)
  - Institutional scholarship programs for full-time, academically-talented STEM students with demonstrated financial need

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Consolidated Appropriations Act, 2017

"The agreement also directs NSF to establish an Hispanic Serving Institution (HSI) program at no less than $15,000,000…to use this program to **build capacity at institutions of higher education that typically do not receive high levels of NSF grant funding."**

American Innovation and Competitiveness Act, P.L. 114-329

"The Director shall award grants on a competitive, merit-reviewed basis to Hispanic-serving institutions (as defined in section 502 of the Higher Education Act of 1965 (20 U.S.C. 1101a)) to **enhance the quality of undergraduate STEM education** at such institutions and to **increase the retention and graduation rates** of students pursuing **associate's or baccalaureate degrees** in science, technology, engineering, and mathematics.''

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Listening Sessions

- Subcommittee of the Advisory Committee of EHR
- Faculty and Staff Listening Sessions
- Student Listening Session at SACNAS
- HSI Conferences

Task: Identify critical challenges and opportunities regarding undergraduate STEM education at two-year and four-year HSIs of higher education, and potential actionable solutions that fall within NSF's mission, policies, and practices

#STEMinHSI

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HSI STEM HUB

hsistemhub.org

Improving Undergraduate STEM Education: Hispanic-Serving Institutions (HSI Program)

NSF 19-540

Deadline: September 18, 2019

- Website: https://nsf.gov/ehr/HSIProgramPlan.jsp

  FAQs, data from listening sessions, and announcements

- Addresses requirements set by Congress in the Consolidated Appropriations Act, 2017 and the American Innovation and Competitiveness Act, recognizing the need to:
  - ✓ **build capacity** at HSIs
  - ✓ **increase the retention and graduation rates** of students pursuing associate or baccalaureate degrees in STEM fields at HSIs

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HSI PROGRAM Tracks

Track 1: Building Capacity

Track 2: HSIs New to NSF

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Track 1: Building Capacity

Priority Area 1: Critical Transitions

Priority Area 2: Innovative Cross-Sector Partnerships

Priority Area 3: Teaching and Learning in STEM

- Proposals should focus on one or more of these priority areas, as appropriate to the project goals.
- The proposal should identify its priority area(s) in both the **overview of the Project Summary** and the **body of the proposal**.

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Track 2: HSIs New to NSF

- Build capacity in undergraduate STEM education at HSIs that either have never received NSF funding or have not received funding from NSF in the five years prior to the proposal deadline.
- Stimulate implementation, adaptation, and innovation in one or more of the three priority areas identified in Track 1.
- Projects will develop **evidence-based** innovative models that address retention and graduation rates of students pursuing associate or baccalaureate degrees in STEM.
- Anticipated **new knowledge** to be generated from the project should be described.
- It is expected that some of the funded Track 2 projects will serve as pilots for ideas that may be expanded in future proposals in Track 1 or other NSF programs.

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HSI Program: Research & Evaluation

From HSI Program NSF 19-540

Research Design

- The **research design** addresses a research question and/or hypothesis that is important to the project and the field, and is appropriate to the **size** and **scope** of the project.

Project Evaluation: Measures to Assess Success

- The **evaluation plan** examines all aspects of the project activities to inform the project's progress towards its goals, and is appropriate to the **size** and **scope** of the project.
- **Successful proposals** will have well aligned research questions/hypotheses, methods, analyses, project activities, and project evaluation.

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Elements of NSF's Merit Review

- What is the potential for the proposed activity to make a difference?
  - **Intellectual Merit (IM):** By **advancing knowledge and understanding** within its own field or across different fields; and
  - **Broader Impacts (BI):** By **benefitting society** or advancing desired societal outcomes?
- To what extent do the proposed activities suggest and explore **creative, original, or potentially transformative** concepts?
- 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 **qualified** is the individual, team, or institution 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?

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Proposal Review

Typical Format of a Review

- General summary of project (2-3 sentences)
- Intellectual merit
  - Strengths
  - Weaknesses/concerns
- Broader impacts
  - Strengths
  - Weaknesses/concerns
- Summary statement (2-3 sentences)
- Overall Rating

Rating the Proposal

- Excellent
- Very Good
- Good
- Fair
- Poor

- PI receives verbatim copies of individual reviews, excluding reviewer identities

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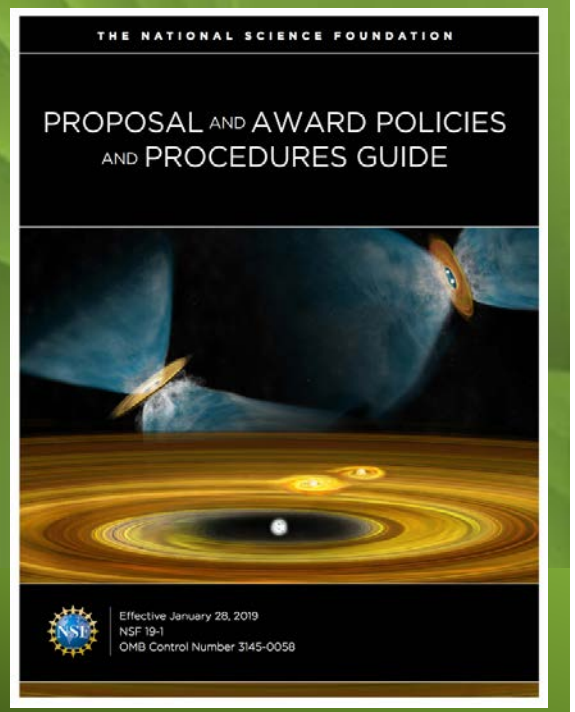

When Preparing Proposals

- **Read** the Program Solicitation
  - **Ask** a Program Officer for clarifications if needed
- **Address** all the proposal review criteria
- **Understand** the NSF merit review process
- **Avoid** omissions and mistakes
- Check your proposal to **verify** that it is complete!
- All grantee requests must be submitted through **Fastlane** or Research.gov unless otherwise stated.
- **Use** the “Proposal & Award Policies & Procedures Guide” (PAPPG, NSF 19-1)

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When Writing Your Proposal

- **Goals**
  - ✓ What are you trying to accomplish?
  - ✓ What will be the outcomes?
- **Rationale**
  - ✓ Why do you believe that you have a good idea?
  - ✓ Why is the problem important?
  - ✓ How does it tie into previous literature/efforts?
  - ✓ Why is your approach promising?
- **Evaluation**
  - ✓ How will you manage the project to ensure success?
  - ✓ How will you know if you succeed?
- **Dissemination**
  - ✓ How will others find out about your work?
  - ✓ How will you interest them?
  - ✓ How will you excite them?

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NSF Proposal Process

PHASE I

PROPOSAL PREPARATION AND SUBMISSION
90 DAYS

1 OPPORTUNITY ANNOUNCED

2 PROPOSAL SUBMITTED

3 PROPOSAL RECEIVED

PHASE II

PROPOSAL REVIEW AND PROCESSING
6 MONTHS

4 REVIEWERS SELECTED

5 PEER REVIEW

6 PROGRAM OFFICER RECOMMENDATION

7 DIVISION DIRECTOR REVIEW

PHASE III

AWARD PROCESSING
30 DAYS

8 BUSINESS REVIEW

9 AWARD FINALIZED

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Other Useful Resources

FastLane User Support
(7 AM to 9 PM Eastern Time • M-F)
1-800-673-6188

- NSF: www.nsf.gov
- PAPPG: https://www.nsf.gov/pubs/policydocs/pappg19_1/index.jsp
  - Proposal Preparation Instructions: https://www.nsf.gov/pubs/policydocs/pappg19_1/pappg_2.jsp
- Guide to Programs: www.nsf.gov/funding/browse_all_funding.jsp
- Award Information: www.nsf.gov/awardsearch
- FastLane: www.fastlane.nsf.gov
- Data Management Plan: www.nsf.gov/bfa/dias/policy/dmp.jsp
- Funding Opportunities: www.nsf.gov/funding

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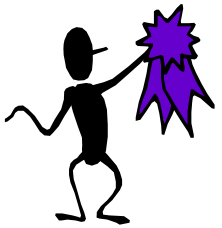
To Do's



START **EARLY**

Get acquainted with FastLane (www.FastLane.nsf.gov) and Research.gov (www.research.gov)

Read the Program Solicitation

- Know the program's specific guidelines and follow them!

Contact a program officer to discuss your idea

- Provides useful information and may help you refine your idea
- May also prevent you from applying to the wrong program
- *E-mail* is best

Become an NSF **reviewer**. (And then become an NSF **rotator!**)

Subscribe to Custom News Services at NSF - http://www.nsf.gov/mynsf/

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Questions?

Women's History Makers: Talitha Washington

twashing@nsf.gov