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EDUCATION & HUMAN RESOURCES



Improving Undergraduate STEM Education: Hispanic-Serving Institutions HSI PROGRAM 18-524

Dr. Talitha Washington

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Explanatory Statement for the Consolidated Appropriations Act, 2017

Public Law 115-31

“The agreement also directs NSF to establish an Hispanic Serving Institution (HSI) program at no less than \$15,000,000 as authorized in 42 U.S.C. 1862o-12. The agreement encourages NSF 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

Public Law 114-329

“SEC. 315. HISPANIC-SERVING INSTITUTIONS UNDERGRADUATE PROGRAM UPDATE.

(a) IN GENERAL.—Section 7033(a) of the America COMPETES Act (42 U.S.C. 1862o–12(a)) is amended as follows:

“(a) IN GENERAL.—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.”

The logo for the Directorate for Education & Human Resources (EHR) features the letters 'EHR' in a large, bold, white sans-serif font against a green background.

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Listening Sessions

- Subcommittee of the Advisory Committee of EHR
 - Faculty and Staff Listening Sessions
 - Student Listening Session at SACNAS
 - DCL HSI Conferences
- The HSI Program at the NSF will focus on undergraduate STEM education at HSIs

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

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DCL HSI Conferences

- Transforming STEM Education in Hispanic Serving Institutions - Regional Insights from the Southwest; University of Arizona, AZ, November 18-20, 2017 (1748526)
- Hispanic-focused STEM Ideas for Inspiration and Innovation, Nova Southeastern University, Fort Lauderdale, FL, December 11-12, 2017 (1748199)
- Pathways for Hispanic Students in STEM, University of California-Irvine, CA, January 22-24, 2018 (1748570)
- Understanding and Improving Readiness and Student Transitions, University of Houston, TX, February 16-18, 2018 (1748533)

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DCL HSI Conferences

- Stakeholder Perspectives on Challenges and Opportunities for Improving Undergraduate STEM Education at HSIs, Texas A&M Engineering Experiment Station, El Centro, Dallas, TX, scheduled for February 27-28, 2018 (1764268)
- PROMISE: Providing Resources and Opportunities for Minorities in STEM Education, Laredo Community College, TX (scheduled for March 21-23, 2018 (1759134)
- Dissecting the STEM Education Ecosystem in Hispanic Serving Institutions (HSIs): Regional Insights from Southern California, California State University Fullerton Foundation, CA, scheduled for April 25-27, 2018 (1764323)
- Urbano-Increasing Access and Success in Urban STEM Programs, CUNY City College, NY, May 23-25, 2018 (1800200)
- Co-Designing an Engineering Education Research Agenda, University of Texas-El Paso, TX, PIs Meagan Kendall, Alexandra Strong and Ines Basalo (scheduled for UTEP, March 29-30, 2018; University of Miami, April 26-27, 2018; follow-up workshop in June, Salt Lake City, UT, date TBD (1764378)
- Catalyzing Progress in Undergraduate STEM Education with Insights from Midwestern HSIs, **Northeastern Illinois University**, IL, scheduled for May 3-4, 2018 (1759566)
- Accelerating the Impact of HSI STEM Education and Research on Innovation Ecosystems, University of Puerto, PR, scheduled for November 8-9, 2018 (1802552)

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Improving Undergraduate STEM Education: Hispanic-Serving Institutions (HSI Program) NSF 18-524

Deadline: March 6, 2018

- <https://nsf.gov/ehr/HSIProgramPlan.jsp>

Alert: This presentation is **not** all-inclusive. Read the entire solicitation for all of the requirements.

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HSI PROGRAM

Institutional Eligibility

- Institutions must be accredited and offer undergraduate educational programs in STEM, and satisfy the **HSI definition** as specified in section 502 of the Higher Education Act of 1965 (20 U.S.C. 1101a), i.e.,
 - a) be an eligible institution; and
 - b) have a full-time equivalent enrollment of undergraduates that is at least 25% Hispanic.
- **Certification of eligibility** is required with submission of a proposal to the HSI Program.

HSI PROGRAM Tracks

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**Track 1:
Building
Capacity**

**Track 2:
HSIs New
to NSF**

**Resource
Hub**

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Track 1: Building Capacity

- **Priority Area 1: Critical Transitions**
 - Advance undergraduates through critical transitions
 - Lower- to upper-division coursework
 - Two-year to four-year institutions
- **Priority Area 2: Innovative Cross-Sector Partnerships**
 - Develop mutually beneficial partnerships that build faculty capacity and undergraduate opportunities to conduct research or STEM education research at HSIs
- **Priority Area 3: Research on Broadening Participation in STEM**
 - Enhance undergraduate STEM education in ways that increase retention and graduation rates of students pursuing degrees in STEM fields at HSIs

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Eligibility for Track 1: Building Capacity

- **Who May Serve as PI:**
 - The Lead Principal Investigator (PI) **must** be employed by the eligible institution submitting the proposal.
 - Co-PIs are **not** restricted to employees of eligible institutions.

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Track 2: HSIs New to NSF

- Broaden the number of HSIs participating in NSF programs.
- Stimulate implementation, adaptation, and innovation in one or more of the three priority areas identified in Track 1.
- It is expected that some of the funded Track 2 projects will serve as a pilot for an idea that may be expanded in a future proposal for an NSF project.
- Proposers are strongly encouraged to use resources developed by other NSF awardees and to consult with people from these projects and centers.

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Eligibility for Track 2: HSIs New to NSF

- Only eligible institutions that have **never** received an NSF award or those that have **not had an award within the past five years** may be the “performing organization” on a Track 2 proposal. The “performing organization” is the organization that leads and implements a funded project.
- **Who May Serve as PI:**
 - The Lead PI of the project must be employed by the “performing organization.” It is acceptable for a system administrative office or other governing organization to submit the proposal and be the “awardee organization,” even if that organization has received a previous NSF award. However, the campus that is the “performing organization” must not have been the performing organization on an NSF award within the past five years and must be geographically distinct and have its own chief academic officer.

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Resource Hub

- Support the needs of HSIs with little or no prior NSF funding.
- Facilitate networking and professional development that build and strengthen collaborations among HSIs.
- Enhance the capability of student, faculty, and administrative leaders to take advantage of opportunities and develop solutions that improve the quality of undergraduate STEM education.
- Proposals should describe how the proposed activities will engage different HSIs, and how their needs will be identified, prioritized, and supported.
- Proposals should describe the evidence-based activities that will be implemented in full detail. Each activity to be implemented should have measurable objectives and outcomes.

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Eligibility for Resource Hub

- **Who May Serve as PI:**
 - The Lead PI for a Resource Hub proposal **must be** employed by the eligible institution submitting the proposal.
 - The Lead PI and co-PIs **must include** at least one member from a two-year eligible institution and at least one member from a four-year eligible institution.

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Limit on Number of Proposals

- An eligible institution can submit only one Track 1 or Track 2 proposal per year. Eligible institutions submitting to Track 1 or Track 2 may also submit a Resource Hub proposal.
- An eligible institution can submit only one Resource Hub proposal.
- An individual may serve as:
 - Lead PI on only one Track 1 or Track 2 proposal.
 - Lead PI on only one Resource Hub proposal.
- There is no limit on the number of proposals that a co-PI may be listed on for Track 1, Track 2, or a Resource Hub.

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Award Information

Approximately \$30 million is anticipated, pending availability of funds for new awards in the FY2018 budget.

Track 1: Building Capacity

- Number of awards: Up to **25** in FY18
- Project length: Up to five years
- Award size: \$500,000 to \$1,500,000

Track 2: HSIs New to NSF

- Number of awards: Up to **18** in FY18
- Project length: Up to three years
- Award size: Up to \$250,000

Resource Hub

- Number of awards: **one award**
- Project length: Up to five years
- Award size: Up to \$3,000,000

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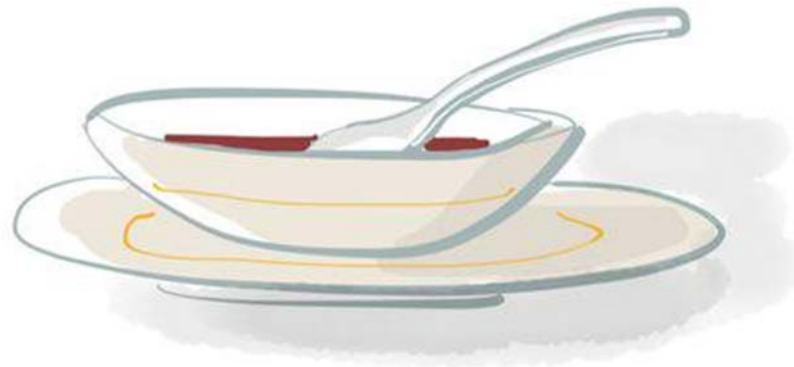
HSI Program, NSF 18-524

- Projects supported by the HSI Program are expected to **generate new knowledge** about **how** to enhance undergraduate STEM education that results in an increase in retention and graduation rates of undergraduate students pursuing STEM degrees at HSIs.
- Proposals should include the **question(s)** to be investigated, explain the **significance** of answering the proposed question(s), and discuss the **evidence or theory** that motivates the question(s).
- Each proposal should have clear project **goals**, measurable **objectives**, and **evaluation** activities aligned to the goals and objectives.



Research versus Evaluation

Soup As Metaphor



- **Research**

- What happens to the soup's flavor when I use different ingredients?
- How does the rate of cooling change when I use different bowls?

- **Evaluation**

- Did I use appropriate procedures to make the soup?
- Did I adequately consider the possible ingredients I might use?

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NSF Merit Review Criteria For All Proposals

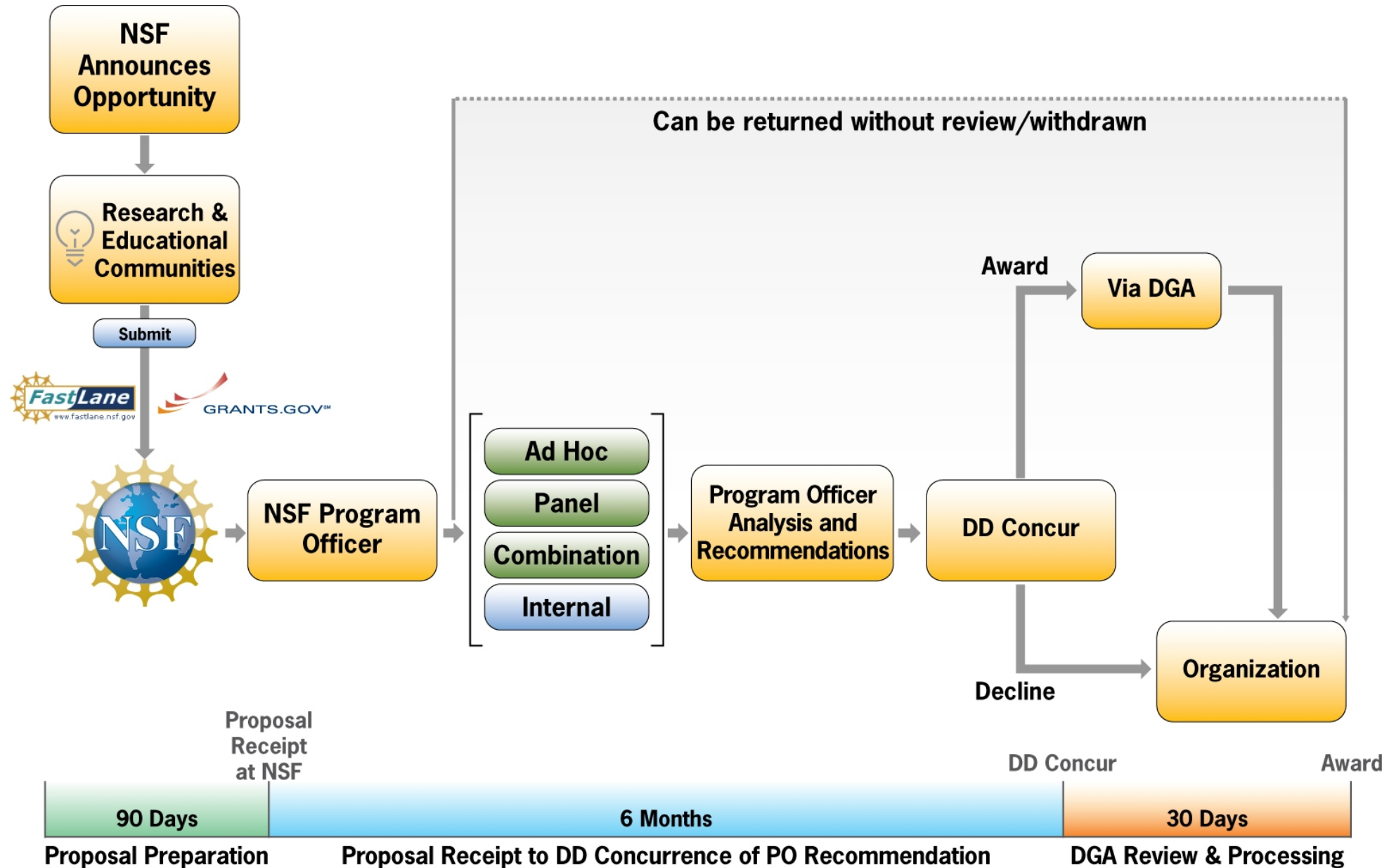
- What is the potential for the proposed activity to make a difference?
 - **Intellectual Merit:** By **advancing knowledge and understanding** within its own field or across different fields; and
 - **Broader Impacts:** By **benefitting society** or advancing desired societal outcomes?
- To what extent 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 and Processing



HSI Program, NSF 18-524

<https://nsf.gov/ehr/HSIProgramPlan.jsp>

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Questions?

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Reviewer:

www.surveymonkey.com/r/HSI_Program

Serve as a
Reviewer

