NSF Programs that Support Undergraduate Education

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Program Officers
Division of Undergraduate Education (DUE)
Education and Human Resources Directorate (EHR)
STEM Education Programs in DUE

- Advanced Technological Education (ATE)
- Scholarships in STEM (S-STEM)
- Improving Undergraduate STEM Education (IUSE: EHR)
- Robert Noyce Teacher Scholarship Program (Noyce)

Cross-Directorate STEM Education Programs

- Research Experiences for Undergraduates (REU: EHR)
- Faculty Early Career Development Program (CAREER: EHR)
- Dear Colleague Letter: Improving Undergraduate STEM Education in Hispanic-Serving Institutions
ATE
Advanced Technological Education

BRAND NEW SOLICITATION: NSF 17-568!
ATE Program Overview

1) ATE Focuses on the education of technicians to meet workforce demands in existing and emerging advanced technological fields.
2) Colleges that award two-year degrees and their faculty must play leadership role on all projects.
3) Requires partnerships between two-year colleges and business and industry, along with secondary schools, four-year colleges and universities, and government, as appropriate.
4) Must respond to the hiring needs of for highly-skills technical workforce in the service area of the proposing institution(s).
5) Must address sustainability.
6) Read the program solicitation for more detailed information.
ATE Program

Three Program Tracks

ATE Projects
Up to $600k, up to 3 yrs
*except*
Small/New to ATE:
Up to $225k

ATE Centers

Targeted Research in Technician Education
From $150k, up to 2 yrs
to $800k, up to 3 yrs

Two Types

National
Up to $5M
5 yrs

Resource Centers
Up to $600k
3 yrs

Deadlines (All Tracks):
5 October 2017
ATE Project Focus Areas

1) Program Development and Improvement
2) Curriculum and Educational Materials Development
3) Professional Development for Educators
4) Leadership Capacity Building for Faculty
5) Teacher Preparation
6) Business and Entrepreneurial Skills Development for Students

7) ATE Coordination Networks
8) Small Grants for Institutions New to the ATE Program**

9) Adaptation and Implementation
10) Instrument Acquisition with Curricular Modifications to Support the Instrumentation

See ATE Solicitation 17-568 for more details!
S-STEM
Scholarships in STEM
SOLICITATION: NSF 17-527
NSF Scholarships in STEM (S-STEM) Program

Supports institutional scholarship programs for full-time, academically-talented STEM students with demonstrated financial need.

- Scholarship Amount: Up to $10,000 per student per year (depending on financial need)
- 60% of Budget to Scholarships – 40% to Student Support, Admin., Research, Evaluation
S-STEM Program
Three Program Tracks

Track 1: Institutional Capacity Building
For institutions without prior funding from S-STEM or STEP programs
Up to $650K
Up to 5 yrs

Track 2: Design and Development: Single Institution
Tracks 2 & 3 seek to leverage S-STEM funds with institutional efforts and infrastructure to increase and understand impacts
Up to $1M
Up to 5 yrs

Track 3: Design and Development: Multi-Institution Consortia
Up to $5M
Up to 5 yrs

Deadline (All Strands and Types):
28 March 2018
Last Wednesday in March, Annually Thereafter
Management Team

Project teams composed of:

1) **Faculty member** currently teaching in one of the S-STEM disciplines
   - STEM disciplinary expertise

2) **STEM Administrator**
   - Communicate across functional units of institution

3) **A researcher** with experience in institutional, educational, discipline-based educational, or social science investigation at the institution or from another institution or research organization
   - Education, DBER, social science, change expertise
IUSE: EHR

Improving Undergraduate STEM Education

SOLICITATION: NSF 15-585

(expired, new solicitation expected for new fiscal year)
### Program Goals

<table>
<thead>
<tr>
<th>Improve STEM Learning &amp; Learning Environments:</th>
<th>Build the Professional STEM Workforce for Tomorrow:</th>
<th>Broaden Participation &amp; Institutional Capacity for STEM Learning:</th>
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<tbody>
<tr>
<td>Increase the number and diversity of undergraduate students recruited and retained in STEM education and career pathways through improving the evidence base for successful strategies to broaden participation and implementation of the results of this research</td>
<td>Improve the preparation of undergraduate students so they can succeed as productive members of the future STEM workforce, regardless of career path, and be engaged as members of a STEM-literate society</td>
<td>Increase the number and diversity of undergraduate students recruited and retained in STEM education and career pathways through improving the evidence base for successful strategies to broaden participation and implementation of the results of this research</td>
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IUSE: EHR Program

Two Program Tracks

Engaged Student Learning
Focus on designing, developing, and implementing research on STEM learning models, approaches, and tools

Two Approaches

Exploration & Design (smaller scale)
Up to $300K
Up to 3 yrs

Development & Implementation (larger scale)
Level I:
Up to $600K, Up to 3 yrs

Level II:
$600K to $2M, Up to 5 yrs

Institutional and Community Transformation
Focus on increasing the propagation of highly effective methods of STEM teaching and learning

Two Approaches

Exploration & Design (smaller scale)
Up to $300K
Up to 3 yrs

Development & Implementation (larger scale)
Level II:
Up to $3M
Up to 5 yrs

Development & Implementation (larger scale)
Up to $3M
Up to 5 yrs
Common Guidelines

• The publication, *Common Guidelines for Education Research and Development*, offers guidance on building the evidence base in STEM learning. Research and development efforts that increase understanding of effective undergraduate STEM teaching and learning provide the foundation for building the STEM workforce of tomorrow and improving scientific literacy.
Noyce

Robert Noyce Teacher Scholarship Program

SOLICITATION: NSF 17-541
GOAL: to encourage talented STEM majors and STEM professionals to become K-12 STEM teachers

Scholarship, stipend, and fellowship recipients must teach in a high-need school district for a specified number of years

- **Track 1 (S&S) Scholarships & Stipends**
  - Undergraduate STEM majors and/or STEM career changers

- **Track 2 (TF) NSF Teaching Fellowships**
  - STEM career changers

- **Track 3 (MTF) NSF Master Teaching Fellowships**
  - Exemplary, experienced STEM teachers

- **Track 4 (Noyce Research) Research on the Preparation, Recruitment, and Retention of K-12 STEM Teachers**

**Deadline (All Tracks):**
29 August 2017; Last Tuesday in August, Annually Thereafter
REU: EHR
Research Experiences for Undergraduates
SOLICITATION: NSF 13-542
The Research Experiences for Undergraduates program supports active research participation by undergraduate students and involve students in meaningful ways in ongoing research programs or in research projects specifically designed for REU.

There are two mechanisms for support of student research:

(1) **REU Sites** are based on independent proposals to initiate and conduct projects that engage a number of students in research.

(2) **REU Supplements** may be included as a component of proposals for new or renewal NSF grants or cooperative agreements or may be requested for ongoing NSF-funded research projects.

**BUDGET**

- For summer REU projects, the total budget request—including all direct costs and indirect costs—is generally expected not to exceed **$1,200 per student per week**.
- The budget request for an academic-year REU project should be comparable on a pro rata basis.
- Projects that involve exceptional circumstances may exceed this limit.
CAREER
Faculty Early Career Development Program
SOLICITATION: NSF 17-537
CAREER Foci & Funding

The Faculty Early Career Development Program is a Foundation-wide activity that offers the National Science Foundation's most prestigious awards in support of junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research within the context of the mission of their organizations.

The minimum CAREER award size is $400,000 for a five-year period for EHR.

A list of CAREER Division/Directorate Contacts can be found on the CAREER web page at http://www.nsf.gov/crssprgm/career/contacts.jsp.

Deadline (EHR):
19 July 2017
Third Wednesday in July, Annually Thereafter
HSI DCL

Dear Colleague Letter: Improving Undergraduate STEM Education in Hispanic-Serving Institutions

NSF 17-092
HSI DCL Overview

1) Call for submission of conference proposals to inform the design of NSF’s new Hispanic-serving Institution program.

2) Intent of conferences is to identify critical challenges in STEM education at two-year and four-year HSIs, and to propose actionable solutions.

3) The proposing institution must be an HSI, but other partners are also welcome. For the purposes of this program, an HSI is defined as any institution with 25% or more undergraduate full-time Hispanic enrollment.


# HSI DCL

## Important Considerations

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<th>Intent of the workshops:</th>
<th>What the program will fund:</th>
<th>Who may apply:</th>
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<td>To advise NSF on how to structure a targeted program to improve STEM education at Hispanic-Serving Institutions</td>
<td>Workshops funded at up to $100,000. Workshops should be held “early” in FY 2018</td>
<td>A principal investigator (or a consortium of principal investigators) at any eligible US institution. For the purposes of this DCL, a Hispanic-Serving Institution is defined as any institution that has 25% or more undergraduate full-time equivalent Hispanic enrollment</td>
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Questions?