



**National Science Foundation**  
Division of Undergraduate Education (DUE)

# **NSF Programs that Support Undergraduate Education**

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## **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



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# ATE

Advanced Technological Education

**BRAND NEW SOLICITATION: NSF 17-568!**



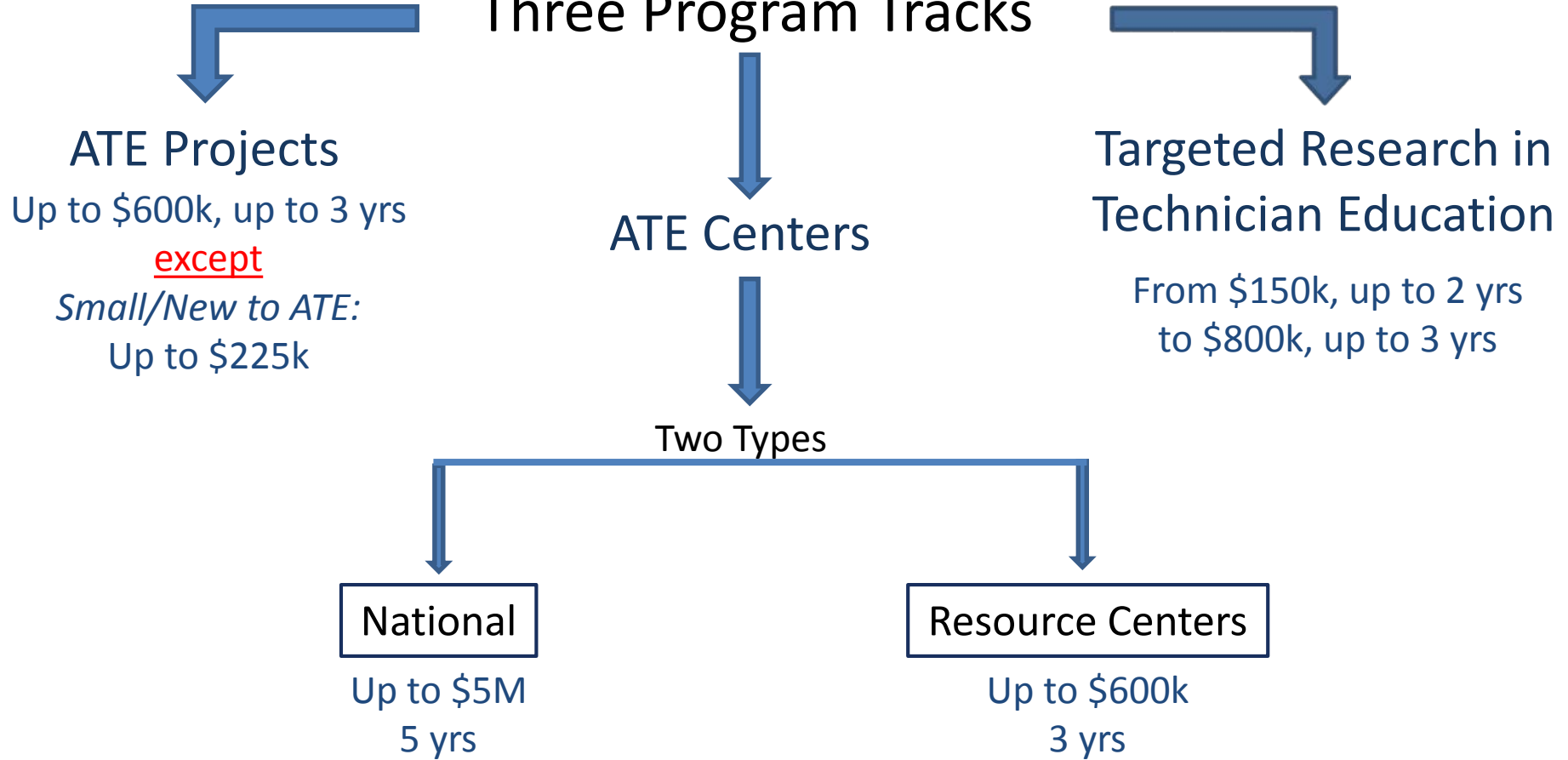
## ATE Program Overview

- 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



**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
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- 7) ATE Coordination Networks
  - 8) Small Grants for Institutions New to the ATE Program\*\*
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- 9) Adaptation and Implementation
  - 10) Instrument Acquisition with Curricular Modifications to Support the Instrumentation
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***See ATE Solicitation 17-568 for more details!***



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# S-STEM

Scholarships in STEM

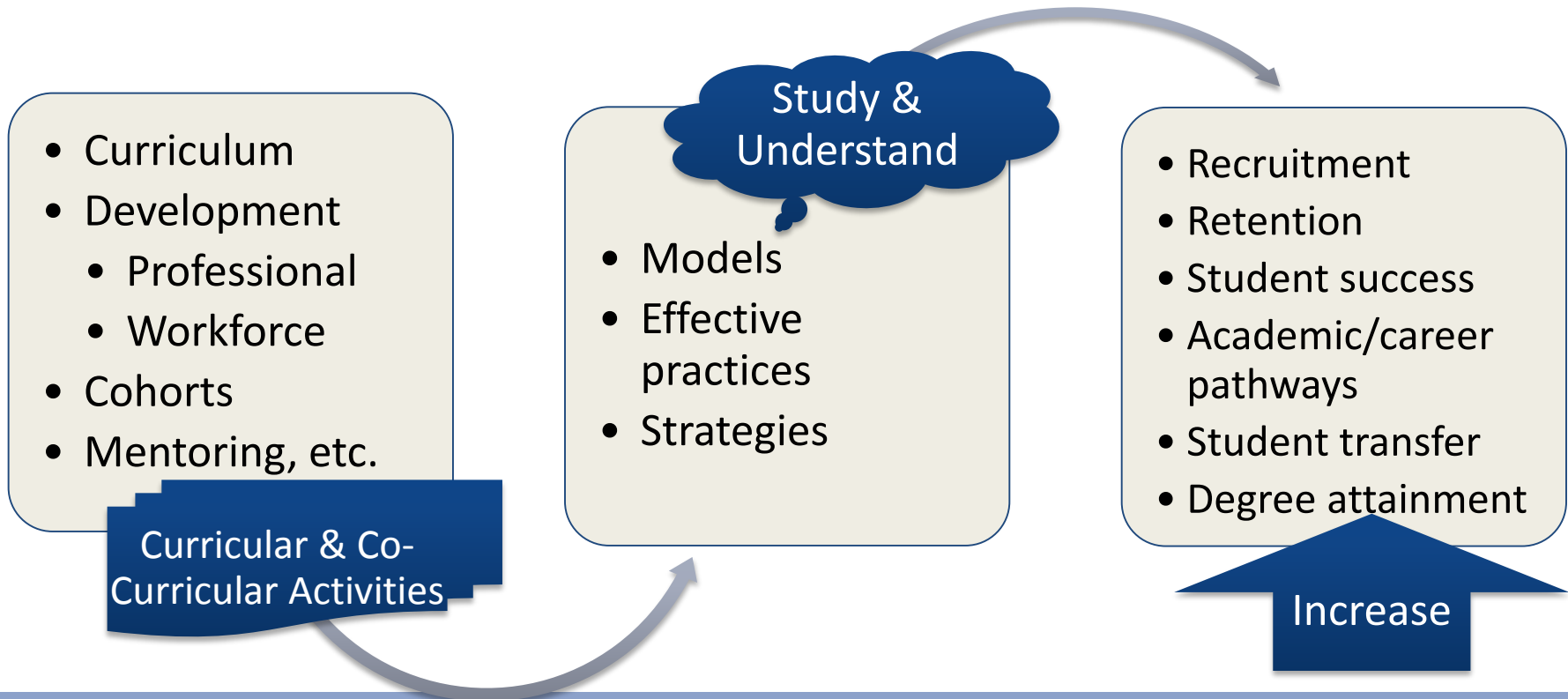
SOLICITATION: NSF 17-527



# 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



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



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# IUSE: EHR

Improving Undergraduate STEM Education

SOLICITATION: NSF 15-585

(expired, new solicitation expected for  
new fiscal year)



## Improving Undergraduate STEM Education (IUSE: EHR)

Competitive proposals should **build on available evidence and theory, generate evidence, and build knowledge.**

### Program Goals

#### Improve STEM Learning & Learning Environments:

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

#### Build the Professional STEM Workforce for Tomorrow:

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

#### Broaden Participation & Institutional Capacity for STEM Learning:

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



# IUSE: EHR Program



## 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)

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.



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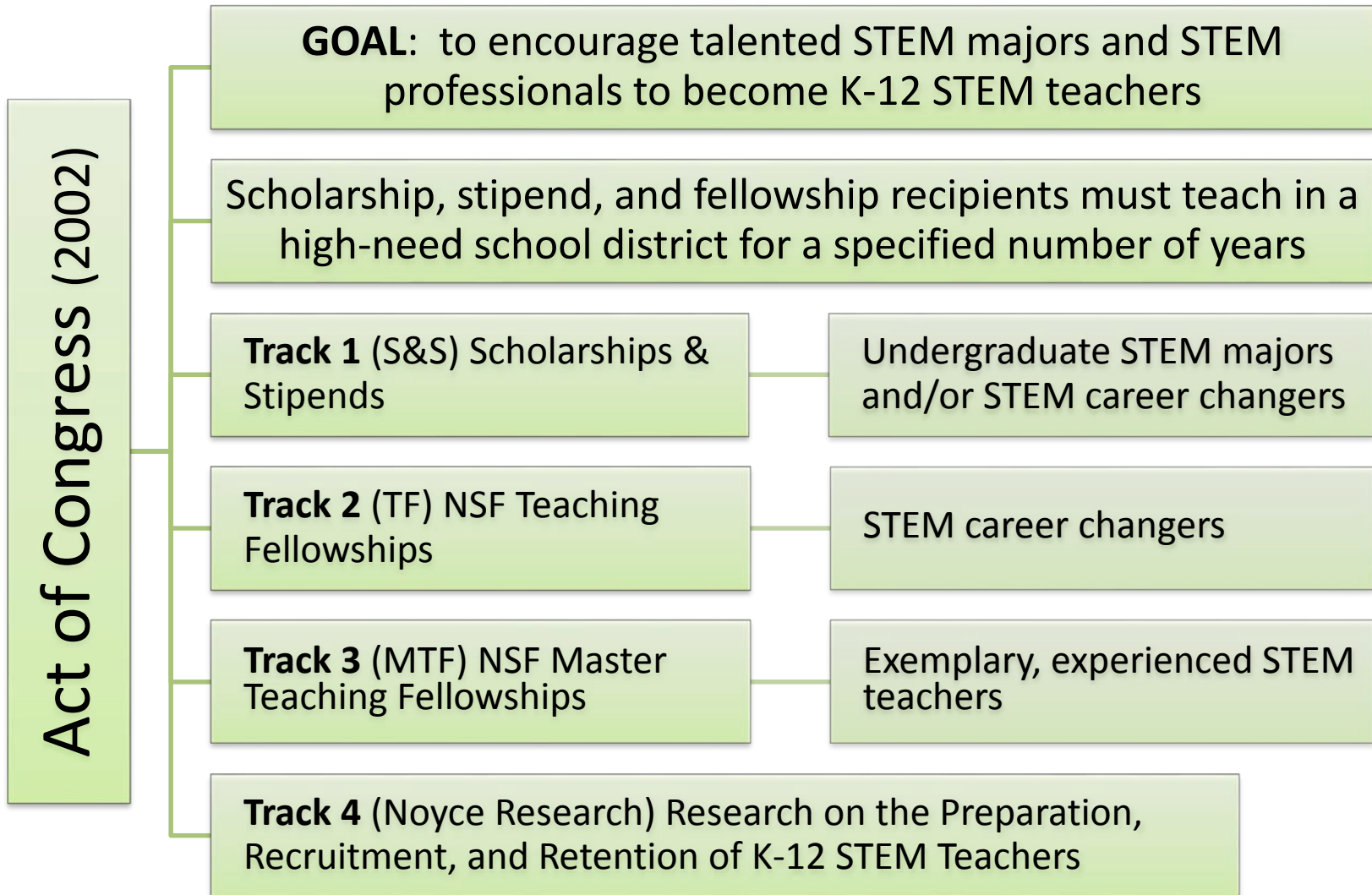
# Noyce

Robert Noyce Teacher Scholarship Program

SOLICITATION: NSF 17-541



# Noyce Teacher Scholarships



**Deadline (All Tracks):**

**29 August 2017; Last Tuesday in August, Annually Thereafter**





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# REU: EHR

Research Experiences for Undergraduates

SOLICITATION: NSF 13-542



# REU Foci & Funding

Deadline (EHR):

23 August 2017

Fourth Wednesday in August, Annually Thereafter.

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.



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# CAREER

Faculty Early Career Development Program

SOLICITATION: NSF 17-537



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## 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**



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# 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.
- 4) Deadline for FY 2017 – July 6, 2017.
- 5) Applications for FY 2018 funding accepted July 7 – September 30, 2017.



## HSI DCL

### Important Considerations

#### Intent of the workshops:

To advise NSF on how to structure a targeted program to improve STEM education at Hispanic-Serving Institutions

#### What the program will fund:

Workshops funded at up to \$100,000. Workshops should be held “early” in FY 2018

#### Who may apply:

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



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# *Questions?*

