Funding Opportunities in the Directorate for Education and Human Resources

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Office of the Assistant Director
Directorate for Education and Human Resources (EHR)
EHR is committed to an inclusive STEM enterprise for science and society.

- $880 million FY 2016 appropriation
- 4,536 proposals
- 905 awards funded
- 542 EHR-funded Institutions
- 153,951 EHR-supported researchers
- 42 former GRF fellows received Nobel Prizes

Funds all S&E disciplines
Funds research in STEM education

Proposal and award numbers shown are based on FY 2016 activities.
EHR Themes

Learning & Learning Environments

Broadening Participation & Institutional Capacity

Workforce Development
EHR Organizational Structure

Office of the Assistant Director (OAD)

Division of Graduate Education (DGE)

Division of Research on Learning in Formal and Informal Settings (DRL)

Division of Undergraduate Education (DUE)

Division of Human Resource Development (HRD)

National Science Foundation
## EHR Program Overview

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*ECR* indicates Early Career Researcher.
Advancing STEM Education through Research

- Generate new knowledge about STEM learning & education
- Develop a diverse workforce ready to advance the frontiers of science and engineering for society
- Grow and sustain a STEM-literate public

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Advancing STEM Learning at All Levels

STEM Workforce

Graduate School

Postdoctoral Experiences

Undergraduate Education

Community College

Elementary School

Middle School

High School

Early Childhood Education

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Advancing STEM Learning across Contexts

- Virtual Worlds
- Formal Education
- Making
- Augmented Reality
- Citizen Science
- Online Learning
- Games
- Social Media
- Science Centers
- Museums
- After-school Programs

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EHR Core Research (ECR)

• fundamental research in STEM education
• funds critical research areas that are essential, broad & enduring
• focuses on
  – STEM learning and learning environments
  – Broadening participation in STEM
  – STEM workforce development
• Example: Drexel University study
• NSF 15-509
• Announcement of new FY19 ECR funding opportunity forthcoming
Programs in the Division of Research on Learning in Formal & Informal Settings (DRL)

- **AISL**: Advancing Informal STEM Learning 17-573
- **CSforAll**: Computer Science for All 18-537
- **DRK-12**: Discovery Research PK-12 17-584
- **ITEST**: Innovative Technology Experiences for Students and Teachers 17-565
- **STEM+C**: STEM + Computing Partnerships 17-535

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Programs in the Division of Human Resource Development (HRD)

- **HBCU-UP**: HBCU Undergraduate Program 18-522
- **LSAMP**: Louis Stokes Alliances for Minority Participation 17-579
- **ADVANCE**: Increasing the Participation & Advancement of Women in Academic Science and Engineering Careers 16-594
- **AGEP**: Alliances for Graduate Education and the Professoriate 16-552
- **TCUP**: Tribal Colleges and Universities Program 18-546
Programs in the Division of Human Resource Development (HRD)

- **CREST**: Centers of Research Excellence in Science and Technology 18-509
- **RISE**: Research Infrastructure for Science and Engineering 18-509
- **PAESMEM**: Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring 16-534
- **PAEMST**: Presidential Awards for Excellence in Mathematics and Science Teaching 16-534
Programs in the Division of Undergraduate Education (DUE)

- **IUSE**: Improving Undergraduate STEM Education 17-590
  - **IUSE: RED** 17-501
  - **IUSE: GEOPATHS** 17-574

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

- **S-STEM**: NSF Scholarships in STEM 17-527

- **ATE**: Advanced Technological Education 17-568

- **NOYCE**: Robert Noyce Teacher Scholarship Program 17-541
Programs in the Division of Graduate Education (DGE)

- **SFS**: CyberCorps: Scholarship for Service 17-556
- **GRF**: Graduate Research Fellowship 16-588
- **GRIP**: Graduate Research Internship Program DCL 16-015
- **IGE**: Innovations in Graduate Education 17-585
- **NRT**: NSF Research Traineeship 18-507
Faculty Early Career Development Program (CAREER)

Faculty Early Career Development Program (CAREER)
Includes the description of NSF Presidential Early Career Awards for Scientists and Engineers (PECASE)

PROGRAM SOLICITATION
NSF 17-537

REPLACES DOCUMENT(S):
NSF 15-555

National Science Foundation
Directorate for Biological Sciences
Directorate for Computer & Information Science & Engineering
Directorate for Education & Human Resources
Directorate for Engineering
Directorate for Geosciences
Directorate for Mathematical & Physical Sciences
Directorate for Social, Behavioral & Economic Sciences
Office of Integrative Activities
Office of International Science and Engineering

Full Proposal Deadline(s) (due by 5 p.m. submitter's local time):
July 19, 2017
Third Wednesday in July, Annually Thereafter
for BIO, CISE, EHR
July 20, 2017
Third Thursday in July, Annually Thereafter
for ENG
July 21, 2017
Third Friday in July, Annually Thereafter
for GEO, MPS, SBE
Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES)

- Bring together dedicated partners
- Find approaches that work
- Build a nation where everyone has opportunities in STEM
NSF’s Ten Big Ideas
All EHR awards should contribute to knowledge about STEM learning and learning environments, workforce development, or broadening participation.

Research
- Is integral to the project
- Contributes to generalizable knowledge
- Includes appropriate methods, depending on the research questions (qualitative, quantitative, or mixed methods)

Evaluation
- Projects have a way to assess process or outcomes.
- Identifies an independent, external evaluator, depending on program solicitation requirements
Common Guidelines

• Foundational Research and Early-Stage or Exploratory Research
• Design and Development Research
• Efficacy Research
• Effectiveness Research
• Scale-up Research

The Merit Review Process

Intellectual Merit
(potential to advance knowledge)

Broader Impacts
(potential to benefit society and contribute to the achievement of specific, desired societal outcomes)
Merit Review Elements

1. 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*)?

2. To what extent do the proposed activities suggest and explore creative, original or potentially transformative concepts?

3. 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?

4. How well qualified is the individual, team, or organization to conduct the proposed activities?

5. Are there adequate resources available to the PI (either at the home institution or through collaborations) to carry out the proposed activities?
The PAPPG

Follow solicitation/ announcement/ PAPPG guidelines

The Proposal and Award Policies and Procedures Guide (PAPPG) contains documents relating to NSF's proposal and award process, including pre- and post-award information.
General Proposal Writing Tips

• Follow solicitation/ announcement/ PAPPG guidelines

• Address the merit review criteria

• Complete all required forms

• Choose collaborators wisely

• Have someone proofread proposal

• Check budget for alignment with proposal
Proposals Answer Fundamental Questions

What are you trying to accomplish?
What will be the outcomes?

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?

Are there ways to inform decisions with data?
How will you know if you succeed?

How will others find out about your work?
How will you interest them?

Goals
Rationale
Evaluation
Dissemination

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Making Connections: Resource Centers

• **AISL**: Center for Advancement of Informal Science Education (CAISE) [informalscience.org/community](http://informalscience.org/community)

• **DRK-12**: Community for Advancing Discovery Research in Education (CADRE) [cadrek12.org](http://cadrek12.org)

• **ITEST**: STEM Learning and Research Center (STELAR) [stelar.edc.org](http://stelar.edc.org)

• **MSP**: Math and Science Partnership Network (MSPnet) [hub.mspnet.org](http://hub.mspnet.org)

• **CIRCL**: [http://circlcenter.org](http://circlcenter.org)

• **NSF INCLUDES**: Coordination Hub coming soon...

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NSF Resources

• NSF: www/nsf.gov

• Funding Opportunities: www/nsf.gov/funding/browse_all_funding.jsp

• Award Information: www/nsf.gov/awardsearch

• Preparing Proposals: https://www/nsf.gov/funding/preparing/

• Data Management Plan: www/nsf.gov/bfa/dias/policy/dmp.jsp


• FastLane: www.fastlane.nsf.gov
Engage with NSF

- Submit Proposals
- Serve as Reviewers & Panelists
- Join Webinars
- Consider being a Rotator

Visit the EHR Website for information about EHR Divisions and Programs

Contact NSF Program Directors for Questions and Suggestions

National Science Foundation
Questions?

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