EHR is committed to building the STEM workforce of tomorrow and a STEM literate public by improving STEM learning
EHR is committed to a healthy and vital national STEM enterprise

- $866 million FY 2015 estimation
- 97% funds research, education and related activities
- 701 awards funded
- 481 EHR-funded institutions
- 4,049 proposals
- 145,000 EHR-supported individuals
- All S&E disciplines funded
- Funds research into STEM education
- 42 former GRF fellows received Nobel Prize

*Other than the FY 2015 estimation, numbers shown are based on FY 2014 activities.*

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**Federal Science, Technology, Engineering, and Mathematics (STEM) Education 5-Year Strategic Plan**

**Priority Areas**

- P-12 STEM education
- Undergraduate education
- Graduate education
- Broadening participation
- Public engagement
- Coordination and evaluation

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**DIRECTORATE FOR EDUCATION AND HUMAN RESOURCES**
Investments that accumulate and build upon knowledge, through evidence-improving and evidence-amassing processes, to:

- Prepare the next generation of STEM professionals
- Develop a robust research community in STEM education
- Increase technological, scientific, and quantitative literacy of all Americans
- Broaden participation in all STEM fields

EHR’s Organizational Structure

Office of the Assistant Director (OAD)

- Division of Research on Formal and Informal Settings (DRL)
- Division of Graduate Education (DGE)
- Division of Undergraduate Education (DUE)
- Division of Human Resource Development (HRD)
Program Focus in the EHR Directorate

<table>
<thead>
<tr>
<th>EHR Division</th>
<th>Learning and Learning Environment</th>
<th>Broadening Participation in STEM</th>
<th>STEM Professional Workforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research on Learning (DRL)</td>
<td>ECR - Learning DR-K12 AISL</td>
<td>ECR includes:</td>
<td>STEM+C Partnerships for the 21st Century formerly Math and Science Partnership</td>
</tr>
<tr>
<td></td>
<td>ECR + REAL =FY2015</td>
<td>• Research on Gender in Science and Engineering (GSE)</td>
<td>ITEST - Innovative Technology Experiences for Students and Teachers</td>
</tr>
<tr>
<td>Graduate Education (DGE)</td>
<td>Project and Program Evaluation (PPE) Building Community &amp; Capacity in Data (BCC)</td>
<td>ECR-STEM Professional Workforce CyberCorps: Scholarship for Service (SFS)</td>
<td>National Research Traineeship (NRT)</td>
</tr>
<tr>
<td>Undergraduate Education (DUE)</td>
<td>ECR-Learning Environment Improving Undergraduate STEM Education (IUSE)</td>
<td>Advanced Technological Education (ATE) Robert Noyce Teacher Scholarship Program S-STEM Scholarship Program</td>
<td></td>
</tr>
</tbody>
</table>

EHR Core Research (ECR) across all themes: EHR invests in foundational research for the strategic improvement of STEM education
## Program Focus in DRL

<table>
<thead>
<tr>
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</tr>
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</table>
| **Research on Learning in Formal and Informal Settings (DRL)** | Core Research & Development (ECR)  
DR-K12- (Discovery Research K-12)  
AISL- Advancing Informal STEM Learning | ECR* includes:  
• Research on Gender in Science and Engineering (GSE)  
• Research in Disabilities Education (RDE)  
*ECR + REAL= FY2015 | STEM+C Partnerships for the 21st Century formerly Math and Science Partnership  
ITEST - Innovative Technology Experiences for Students and Teachers |

## Program Focus in DGE

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Graduate Education (DGE)</strong></td>
<td>Project and Program Evaluation (PPE)/Promoting Research and Innovation in Methodologies for Evaluation (PRIME)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
• EHR Core Research: Workforce Development (ECR)*  
• SFS- CyberCorps: Scholarship for Service  
• GRF - Graduate Research Fellowship  
• NRT- National Research Traineeship  
• INSPIRE-Integrated NSF Support Promoting Interdisciplinary Research and Education  
• NSF Innovation Corps (I-Corps) | |
### Program Focus in HRD

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Human Resource Development (HRD)</td>
<td>• ADVANCE-Increasing the Participation and Advancement of Women in S &amp; E careers</td>
<td>*Core Research &amp; Development (ECR)</td>
<td>• PAEMST- Presidential Awards for Excellence in Mathematics and Science Teaching</td>
</tr>
<tr>
<td></td>
<td>• AGEP-Alliances for Graduate Education and the Professoriate</td>
<td>LSAMP- Louis Stokes Alliances for Minority Participation</td>
<td>• PAESMEM- Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring</td>
</tr>
<tr>
<td></td>
<td>• HBCU-UP-Historically Black Colleges and Universities Undergraduate Program</td>
<td></td>
<td>• CREST- Centers of Research Excellence in Science and Technology</td>
</tr>
<tr>
<td></td>
<td>• TCUP- Tribal Colleges and Universities Programs</td>
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<td></td>
</tr>
<tr>
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<td>*Core Research &amp; Development (ECR)</td>
<td>LSAMP- Louis Stokes Alliances for Minority Participation</td>
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</table>

### Program Focus in DUE

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<tr>
<td></td>
<td>IUSE- Improving Undergraduate STEM Education</td>
<td></td>
<td>Robert Noyce Teacher Scholarship Program (NOYCE)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>S-STEM = Scholarship in STEM Program</td>
</tr>
</tbody>
</table>
EHR is continuing a thematic emphasis

- **Learning & Learning Environments**
- **Broadening Participation & Institutional Capacity**
- **Workforce Development**

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Research, Development, and Model-Building for STEM Learning:

A. Core Knowledge
   - Foundational Research
   - Early Stage and Exploratory Research

B. Design and Development Projects

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Knowledge and Evidence Resources

C. Impact: Studies
   - Efficacy Studies
   - Effectiveness Studies
   - Scale-up Studies

Common Guidelines for Education Research & Development
Prospective Principal Investigators

- Engage with NSF
- Answer fundamental questions
- Seek Collaborations
- Strengthen Interdisciplinary Partnerships
- Communicate – early and often!

Engage with NSF

- Submit Proposals
- Serve as Reviewers & Panelists
- Be Active as Workshop Participants and Organizers
- Consider Being a Rotator

For information on a particular EHR division and program, go to the EHR website and choose a division.


Contact NSF Program Directors for questions and suggestions
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?

How will you manage the project to ensure success?
How will you know if you succeed?

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

Goals
Rationale
Evaluation
Dissemination

Stay connected with NSF

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• Guide to Programs:
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• 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
Thank You!

David Campbell
703-292-5093
dcampbel@nsf.gov