Contributing to the Administration goal of producing one million additional college graduates with degrees in science, technology, engineering, and mathematics and preparing 100,000 excellent math and science teachers over the next decade.
**Vision:** a healthy and vital national science, technology, engineering, and mathematics (STEM) enterprise

**Mission:** to support the preparation of a diverse, globally competent STEM workforce and a STEM-literate citizenry through investment in research and development on STEM education and learning

**Directorate for Education and Human Resources (EHR)**

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
Investments where research questions inform development and in turn, development fosters research questions.

This concept is the basis for EHR's Core Research and Development (ECR) initiative.

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**EHR FY2014 Strategic Framework**

- Learning and Learning Environments
- Broadening Participation in STEM
- STEM Professional Workforce
**ECR Core Areas**

**STEM Learning:** discipline-based learning; learning and engagement (formal and informal); dissemination of knowledge and learning; integration of knowledge; impacts of persistence and identity on learning; big data

**STEM Learning Environments:** emerging learning environments (e.g. cyberspace); evidence-based approaches to undergraduate STEM instruction including blended instruction; virtual reality; personalized learning environments

**STEM Workforce Development:** diverse, globally-prepared, highly-skilled STEM workforce (and teachers); entire STEM workforce continuum; retention and degree completion; academic and non-academic STEM career pathways; connecting workplace expectations to designs of interventions

**Broadening Participation in STEM:** evidence gathering on practices that enhance the participation, retention and success of URGs in STEM; academic transition points; access to and impacts of technology on diverse population; metrics to assess outcomes of broadening participation and institutional capacity

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**EHR’s Organizational Structure**

- **Office of the Assistant Director**
- **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>
</table>
| Research on Learning (DRL)                       | *ECR - (Learning) DR-K12 AISL
   *[ECR + REAL = FY2015]*                       | *REAL -
   • Research on Gender in Science and Engineering (GSE)
   • Research in Disabilities Education (RDE)     | STEM-C Partnerships for the 21st Century (SCP) - [formerly Math and Science Partnership] |
| Graduate Education (DGE)                         | Project and Program Evaluation            | *ECR - (STEM Professional Workforce) CyberCorps: Scholarship for Service (SFS)
   Graduate Research Fellowship (GRF)
   National Research Traineeship (NRT)            |                                                                                   |
| Human Resource Development (HRD)                 | ADVANCE
   AGEP
   HBCU-UP TCUP                                    | *ECR - (Broadening Participation and Capacity Building)
   LSAMP                                              | Excellence Awards in Science and Engineering (EASE: PAEMST & PAESMEM)
   CREST                                                             |
| Undergraduate Education (DUE)                    | *ECR - (Learning Environment)
   Improving Undergraduate STEM Education (IUSE) |                                                                                   | Advanced Technological Education (ATE)
   Robert Noyce Teacher Scholarship Program        |

### Program Focus in DRL

<table>
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</thead>
</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           | *Research on Education and Learning (REAL)
   • Research on Gender in Science and Engineering (GSE)
   • Research in Disabilities Education (RDE)       | STEM-C Partnerships for the 21st Century (SCP) - [formerly Math and Science Partnership]    |
|                                                   |                                           | *REAL + ECR = FY2015                                                    |                                                                                               |
## Program Focus In DGE

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

## Program Focus In HRD

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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>EASE- Excellence Awards in Science and Engineering</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>1. PAEMST- Presidential Awards for Excellence in Mathematics and Science Teaching</td>
</tr>
<tr>
<td></td>
<td>HBCU-UP. Historically Black Colleges and Universities Undergraduate Program</td>
<td></td>
<td>2. PAESMEM- Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring</td>
</tr>
<tr>
<td></td>
<td>TCUP- Tribal Colleges and Universities Programs</td>
<td></td>
<td>CREST - Centers of Research Excellence in Science and Technology</td>
</tr>
</tbody>
</table>
Program Focus In DUE

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<tr>
<td>Undergraduate Education (DUE)</td>
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<td>Advanced Technological Education (ATE)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Robert Noyce Teacher Scholarship Program (NOYCE)</td>
</tr>
</tbody>
</table>

Cross-Cutting Initiatives

- Cyberlearning and Future Learning Technologies (Cyberlearning)
- Building Community and Capacity for Data-Intensive Research in the Social, Behavioral and Economic Sciences and in Education and Human Resources (BCC-SBE/EHR)
- Critical Techniques and Technologies for Advancing Big Data Science & Engineering (BIGDATA)
- National Science Foundation Research Traineeship (NRT) Program
**EHR Funding Rate**

Overall FY 2013 EHR funding rate: 18%

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**Answer FUNDAMENTAL Questions**

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

Goals

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?  

Rationale

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

Evaluation

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

Dissemination
Stay Connected

- Submit Proposals
- Serve as Reviewers and 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.

Useful Resources

- Guide to Programs: [www.nsf.gov/funding/browse_all_funding.jsp](http://www.nsf.gov/funding/browse_all_funding.jsp)
- Award Information: [www.nsf.gov/awardsearch](http://www.nsf.gov/awardsearch)
- FastLane: [www.fastlane.nsf.gov](http://www.fastlane.nsf.gov)
- Funding Opportunities: [www.nsf.gov/funding](http://www.nsf.gov/funding)
Questions???

THANK YOU

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