NSF Days
Directorate for Education and Human Resources (EHR)

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Portland, OR

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Directorate for Education and Human Resources
National Science Foundation

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.

$880 million FY 2015 estimation

97% funds research, education and related activities

4,243 proposals

831 awards funded

650 EHR-funded Institutions

147,000 EHR-supported individuals

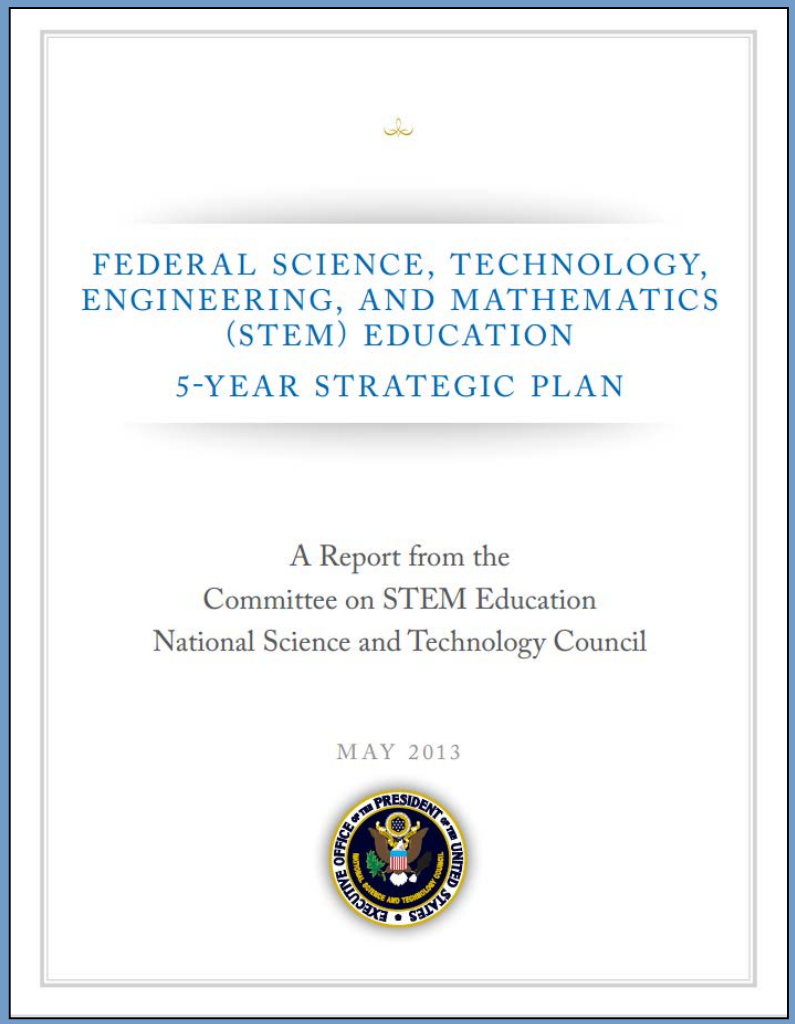
All S&E disciplines funded

Funds research into STEM education

43 former GRF fellows received Nobel Prize

Other than the FY 2016 estimation, numbers shown are based on FY 2015 activities.

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


FEDERAL SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS (STEM) EDUCATION

5-YEAR STRATEGIC PLAN

A Report from the
Committee on STEM Education
National Science and Technology Council

MAY 2013

Priority Areas

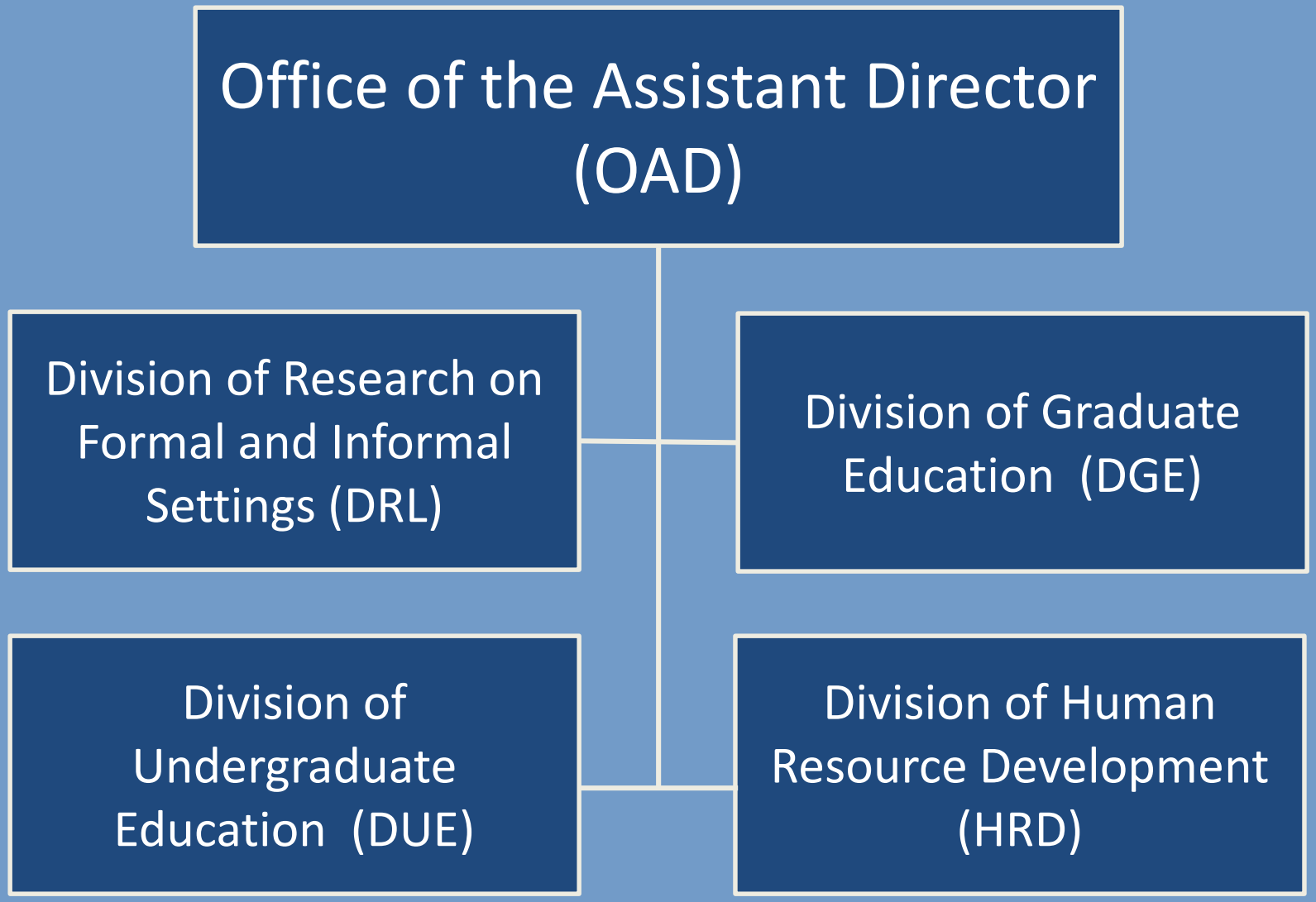
- P-12 STEM education
- Undergraduate education
- Graduate education
- Broadening participation
- Public engagement
- Coordination and evaluation

Directorate for Education and Human Resources

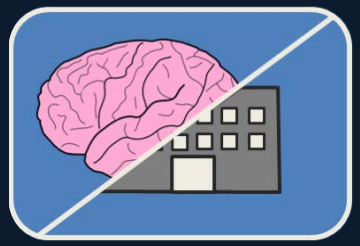
Investments that accumulate and build upon knowledge, through evidence-improving and evidence-amassing processes, to

- 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

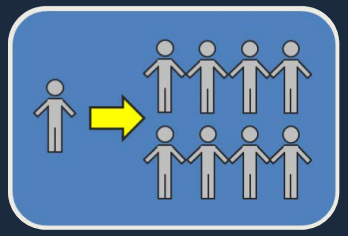
EHR's organizational structure



EHR is continuing a thematic emphasis.



Learning & Learning Environments



Broadening Participation & Institutional Capacity

Workforce Development

Program Focus in the EHR Directorate

EHR Division	Learning and Learning Environment	Broadening Participation in STEM	STEM Professional Workforce
Research on Learning (DRL)	ECR -*Learning* DR-K12 AISL ECR + REAL =FY2015	ECR includes: • Research on Gender in Science and Engineering (GSE) • Research in Disabilities Education (RDE)	STEM+C Partnerships for the 21st Century *formerly Math and Science Partnership* ITEST - Innovative Technology Experiences for Students and Teachers
Graduate Education (DGE)	Project and Program Evaluation (PPE) Building Community & Capacity in Data (BCC)	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 - PAEMST & PAESMEM CREST
Undergraduate Education (DUE)	ECR-*Learning Environment* Improving Undergraduate STEM Education (IUSE)		Advanced Technological Education (ATE) Robert Noyce Teacher Scholarship Program S-STEM Scholarship Program

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

Program Focus in DRL

EHR Division	Learning and Learning Environment	Broadening Participation in STEM	STEM Professional Workforce
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

EHR Division	Learning and Learning Environment	Broadening Participation in STEM	STEM Professional Workforce
Graduate Education (DGE)	Project and Program Evaluation (PPE)/Promoting Research and Innovation in Methodologies for Evaluation (PRIME)	• 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)	

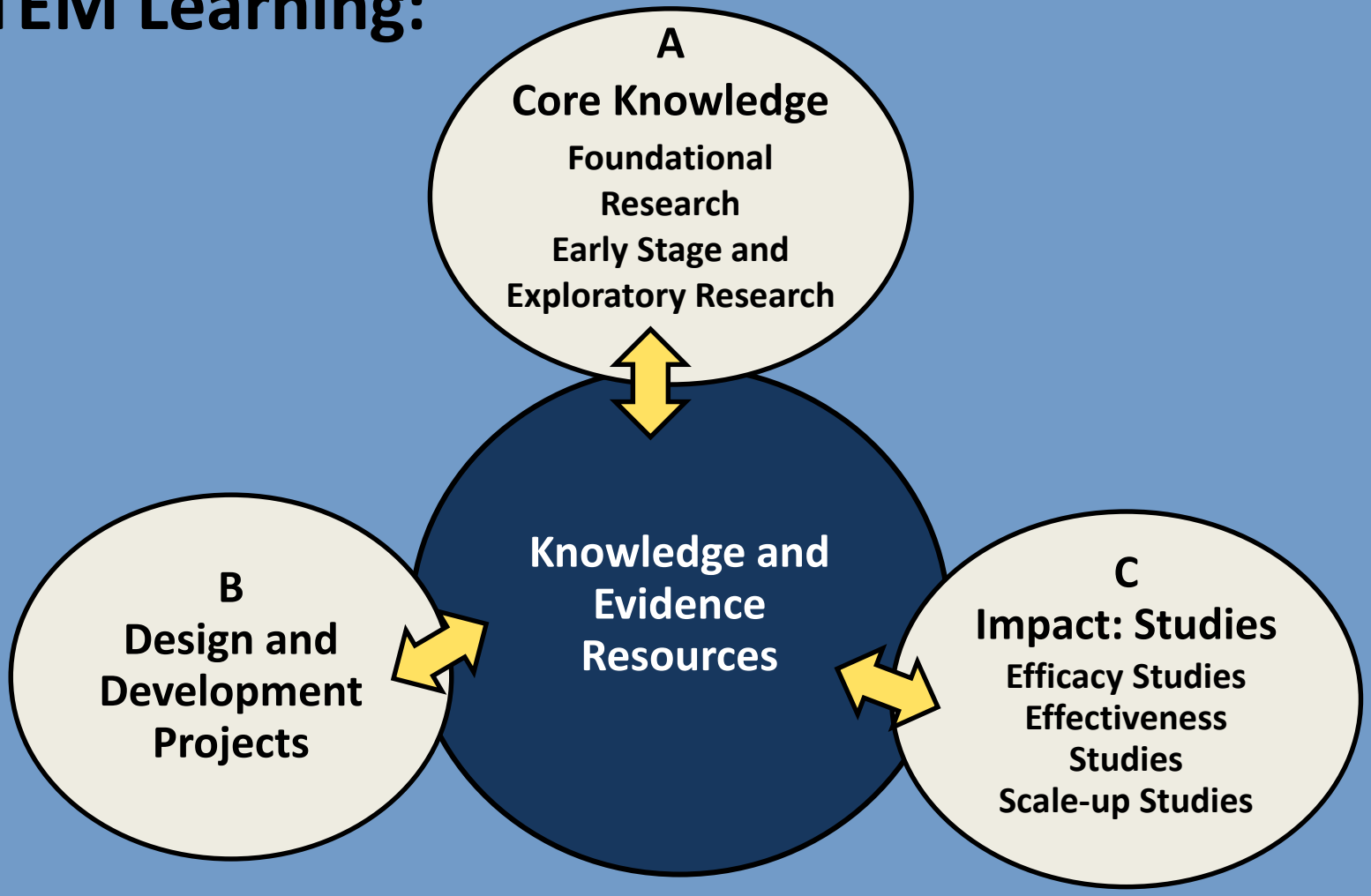
Program Focus in HRD

EHR Division	Learning and Learning Environment	Broadening Participation in STEM	STEM Professional Workforce
Human Resource Development (HRD)	• ADVANCE-Increasing the Participation and Advancement of Women in S & E careers • AGEP-Alliances for Graduate Education and the Professoriate • HBCU-UP-Historically Black Colleges and Universities Undergraduate Program • TCUP- Tribal Colleges and Universities Programs	*Core Research & Development (ECR) LSAMP- Louis Stokes Alliances for Minority Participation	• PAEMST- Presidential Awards for Excellence in Mathematics and Science Teaching • PAESMEM- Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring) • CREST- Centers of Research Excellence in Science and Technology

Program Focus in DUE

EHR Division	Learning and Learning Environment	Broadening Participation in STEM	STEM Professional Workforce
Undergraduate Education (DUE)	Core Research & Development (ECR) IUSE- Improving Undergraduate STEM Education		Advanced Technological Education (ATE) Robert Noyce Teacher Scholarship Program (NOYCE) S-STEM = Scholarship in STEM Program

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



Common Guidelines for Education Research &Development
http://ies.ed.gov/pdf/CommonGuidelines.pdf

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 http://www.nsf.gov/about/career_opps/rotators/index.jsp

For information on a particular EHR division and program, go to the EHR website and choose a division.
http://www.nsf.gov/dir/index.jsp?org=EHR

Contact NSF Program Directors for questions and suggestions

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 with NSF

- **NSF:** www.nsf.gov
- **Proposal and Award Policies and Procedures Guide (PAPPG):** http://www.nsf.gov/pubs/policydocs/pappguide/nsf16001/
- **Guide to Programs:** www.nsf.gov/funding/browse_all_funding.jsp
- **Award Information:** www.nsf.gov/awardsearch
- **FastLane:** www.fastlane.nsf.gov
- **Broader Impacts:** www.nsf.gov/pubs/gpg/broaderimpacts.pdf
- **Data Management Plan:** www.nsf.gov/bfa/dias/policy/dmp.jsp
- **Funding Opportunities:** www.nsf.gov/funding

Thank You!

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