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Programs and Initiatives in the Directorate for Education and Human Resources

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Program Director

Division of Undergraduate Education

Directorate for Education and Human Resources

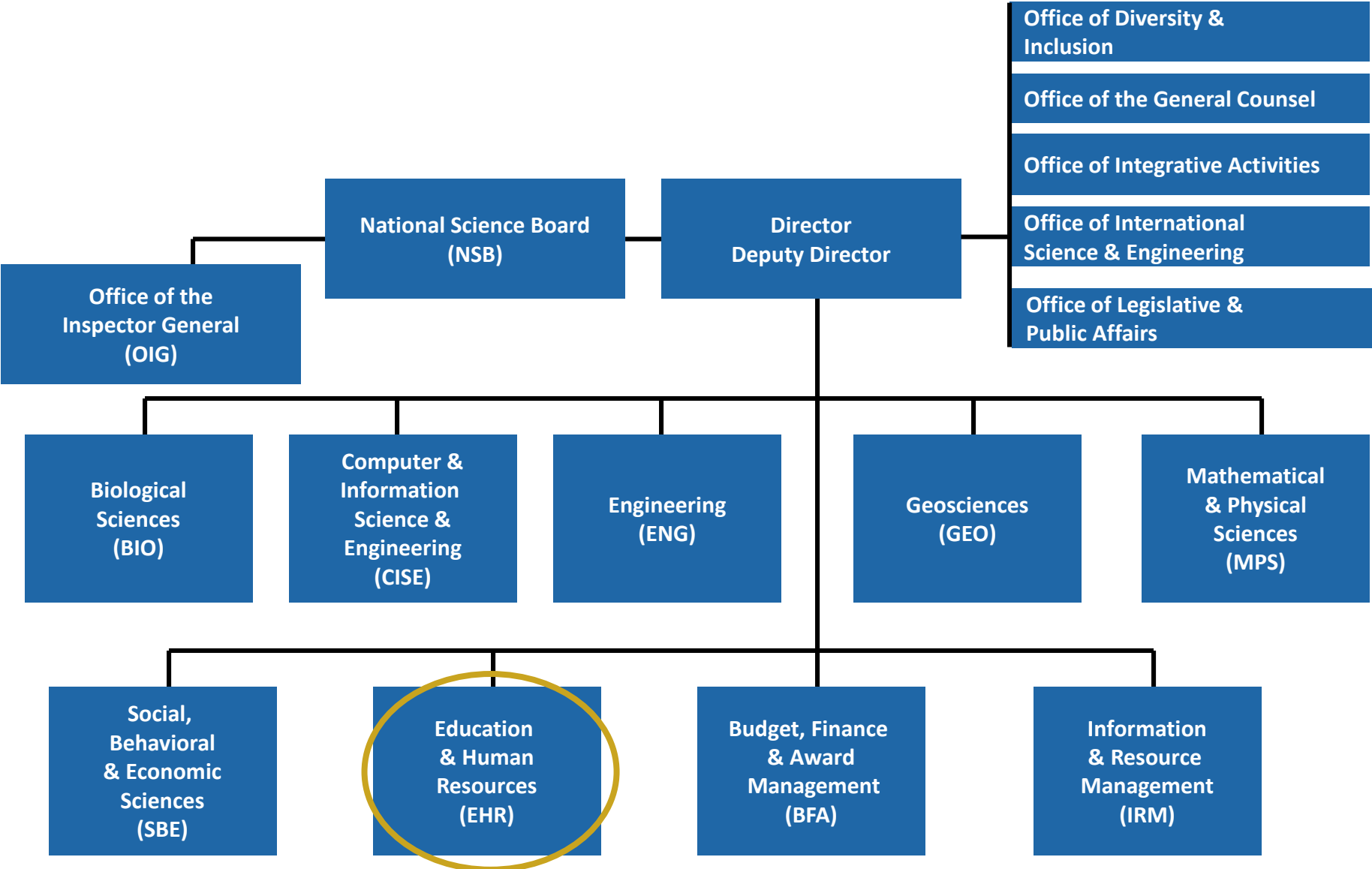
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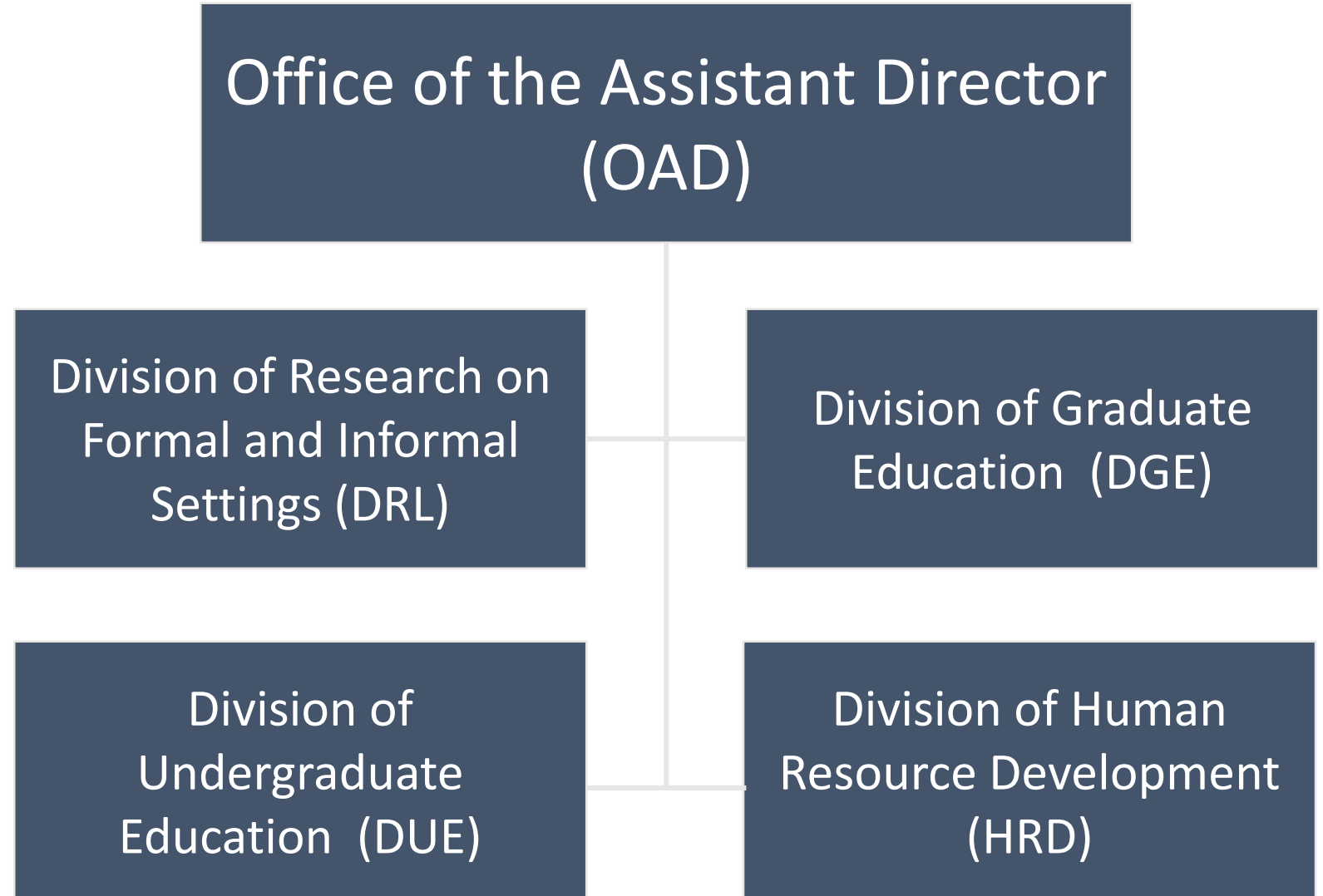
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EHR Organizational Structure



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EHR Investment Priorities

STEM Learning and Learning Environments

- Build on cognitive and “non-cognitive” foundations in STEM.
- Support research and the development of innovative tools, approaches and practices in formal and informal STEM learning contexts.

Broadening Participation and Institutional Capacity in STEM

- Promote accessibility, supports and success for underrepresented groups through high-quality STEM education.

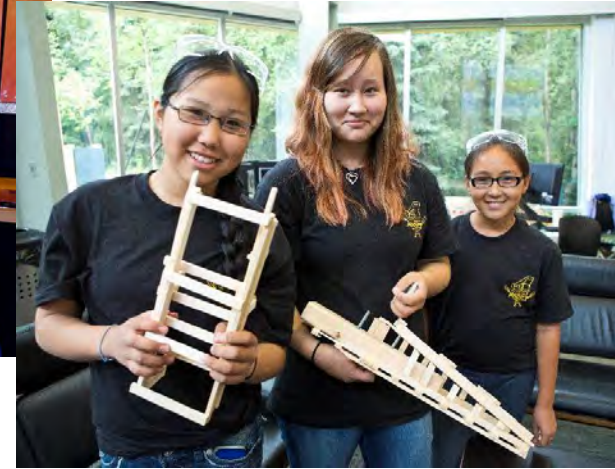
STEM Workforce

- Build capacity and prepare a diverse STEM workforce.
- Capitalize on novel advances in science and technology.
- Address emerging global, social, and economic challenges and opportunities.

Advancing STEM Learning through Research

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- 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.

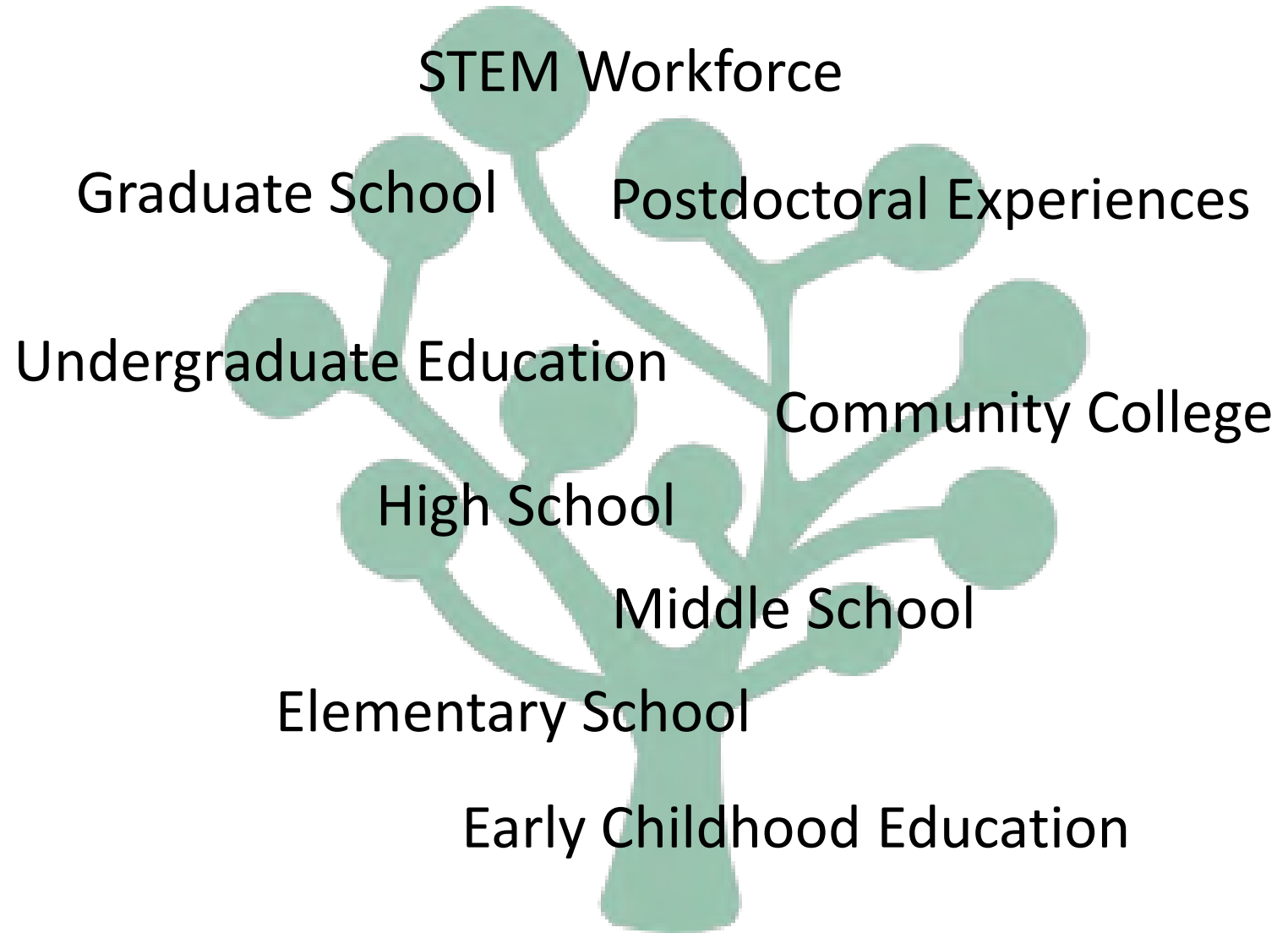
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Advancing STEM Learning at All Levels



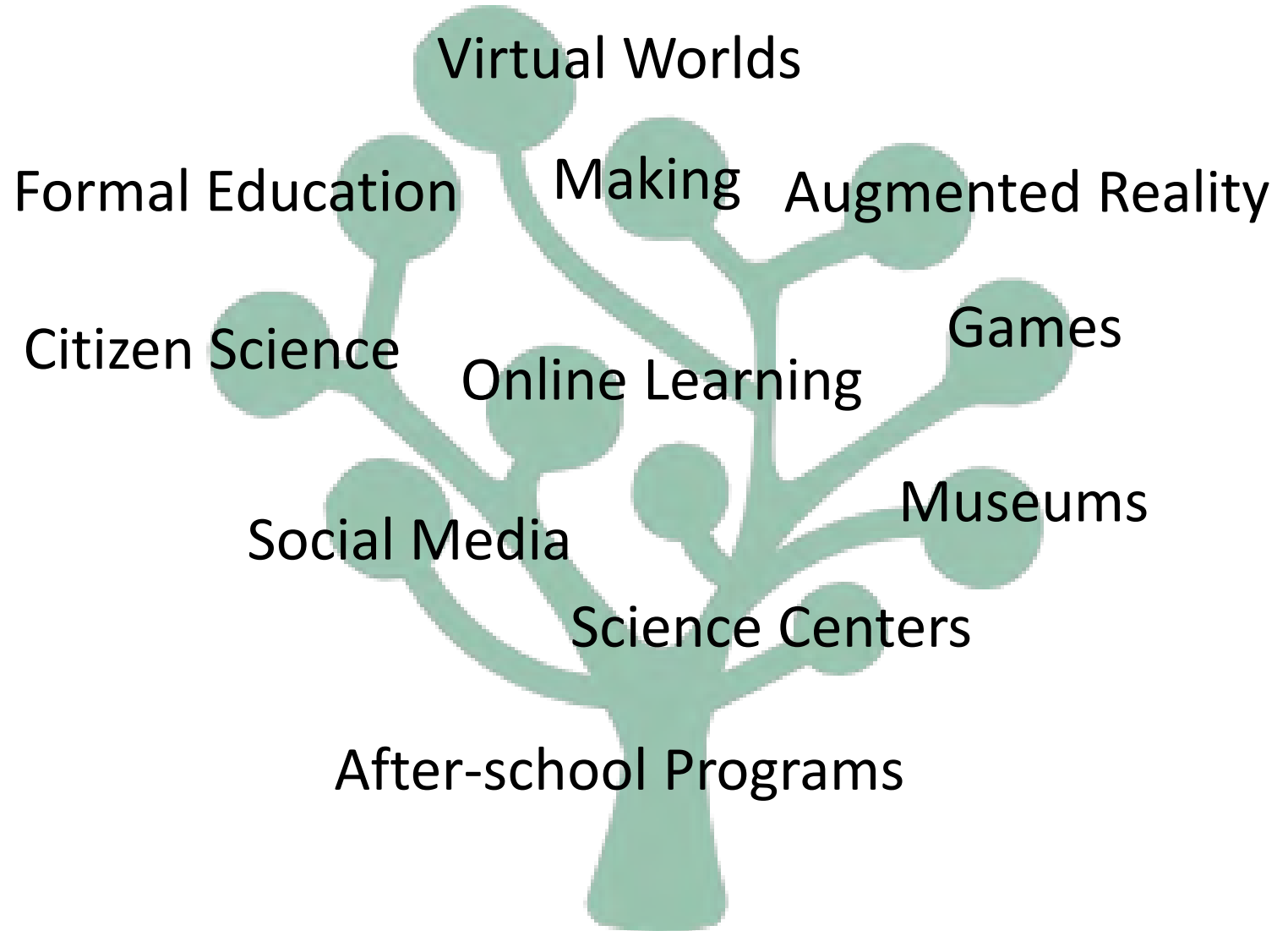
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Advancing STEM Learning Across Contexts



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EHR PROGRAMS (and some cross-directorate programs)

EHR Program Overview

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<i>Division</i>	L&LE	BP	WD
<i>Research on Learning (DRL)</i>	S&CC	AISL DR-K12	ITEST STEM+C CSforALL BCC-EHR*
<i>Undergrad Education (DUE)</i>	IUSE (EHR, HSI) S-STEM		ATE* Noyce AD* C3P* REU-Sites
<i>Graduate Education (DGE)</i>			SFS/CyberTraining/SaTC GRF / GRIP IGE NRT
<i>Human Resource Development (HRD)</i>	ADVANCE AGEP HBCU-UP TCUP DEL*	LSAMP CREST and RISE REU	PAEMST & PAESMEM CREST

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Division of Undergraduate Education (DUE) Programs

- **IUSE: EHR** Improving Undergraduate STEM Education: EHR **17-590**
- **S-STEM**: NSF Scholarships in STEM **17-527**
- **ATE**: Advanced Technological Education **18-571**
- **NOYCE**: Robert Noyce Teacher Scholarship Program **17-541**



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

- **AIISL**: 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](#)
- **S&CC**: Smart and Connected Communities [19-564](#)
- **STEM+C**: STEM + Computing Partnerships [18-005Y](#)



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Division of Human Resource Development (HRD) Programs

- **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 **19-552**
- **AGEP**: Alliances for Graduate Education and the Professoriate **16-552**
- **TCUP**: Tribal Colleges and Universities Program **18-546**



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HRD Programs cont.

- **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**

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Division of Graduate Education (DGE) Programs

- **SFS**: CyberCorps: Scholarship for Service **19-521**
- **GRFP**: Graduate Research Fellowship **18-573**
- **GRIP**: Graduate Research Internship Program **DCL 18-069**
- **IGE**: Innovations in Graduate Education **17-585**
- **NRT**: NSF Research Traineeship **19-522**
- **CyberTraining**: Training-based Workforce Development for Advanced Cyberinfrastructure **19-524**
- **SaTC**: Secure and Trustworthy Cyberspace **18-572**



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Crosscutting and Cross-divisional Programs

- **ECR**: EHR Core Research **19-508**
- **ECR: BCSEER**: Building Capacity in STEM Education Research **19-565**
- **IUSE: HSI** Improving Undergraduate STEM Education: Hispanic Serving Institutions **18-524**
- **REU**: Research Experiences for Undergraduates **13-542**
- CAREER: Faculty Career Development Program **17-537**

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NSF's Ten Big Ideas

RESEARCH IDEAS			
 <p>HARNESSING THE DATA REVOLUTION</p>	<p>Work at the Human-Technology Frontier: Shaping the Future</p> 	<p>Windows on the Universe: The Era of Multi-messenger Astrophysics</p> 	<p>The Quantum Leap: Leading the Next Quantum Revolution</p> 
<p>Harnessing Data for 21st Century Science and Engineering</p>	 <p>Navigating the New Arctic</p>	 	<p>Understanding the Rules of Life: Predicting Phenotype</p> 
PROCESS IDEAS			
<p>Mid-scale Research Infrastructure</p> 	<p>NSF 2026</p> 		
 <p>Growing Convergent Research at NSF</p>	 <p>NSF INCLUDES: Enhancing STEM through Diversity and Inclusion</p>		



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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



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GENERAL INFORMATION

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Proposals 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*

Are there ways to inform decisions with data?

How will you know if you succeed?

} *Evaluation*

How will others find out about your work?

How will you interest them?

} *Dissemination*



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Research and Evaluation in EHR Proposals

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

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Prospective Principal Investigators

A screenshot of the National Science Foundation (NSF) website. The main page is titled 'National Science Foundation WHERE DISCOVERIES BEGIN'. The navigation menu includes 'HOME', 'FUNDING', 'AWARDS', 'DISCOVERIES', 'NEWS', 'PUBLICATIONS', 'STATISTICS', 'ABOUT NSF', and 'FASTLANE'. The 'Funding' section is highlighted, and the 'Find Funding' page is displayed. A red circle highlights the text 'Get NSF funding information by' followed by icons for email, RSS, and another RSS. A blue arrow points from this text to a pop-up window titled 'National Science Foundation Update - Internet Explorer'. The pop-up window is for signing up for email updates and contains a form with a 'Submit' button and a 'Cancel' button. The URL in the browser address bar is 'https://service.govdelivery.com/accounts/USNSF/subscriber/new?qs=8'.

- Track Funding Opportunities
- Engage with NSF
- Answer Fundamental Questions
- Seek Collaborations & Interdisciplinary Partnerships

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Engage with NSF

- Submit Proposals
- Serve as a Reviewer & Panelist
- Join Webinars
- Consider being a Rotator
http://www.nsf.gov/about/career_opps/rotators/index.jsp



Visit the EHR Website for information about EHR Divisions and Programs

<http://www.nsf.gov/dir/index.jsp?org=EHR>

Contact NSF Program Directors for Questions and Suggestions

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Making Connections: Resource Centers

- **AISL:** Center for Advancement of Informal Science Education (CAISE) informalscience.org/community
- **DRK-12:** Community for Advancing Discovery Research in Education (CADRE) cadrek12.org
- **ITEST:** STEM Learning and Research Center (STELAR) stelar.edc.org
- **MSP:** Math and Science Partnership Network (MSPnet) hub.mspnet.org
- **CIRCL:** <http://circlcenter.org>
- **ARISE (Noyce):** <https://aaas-arise.org/>

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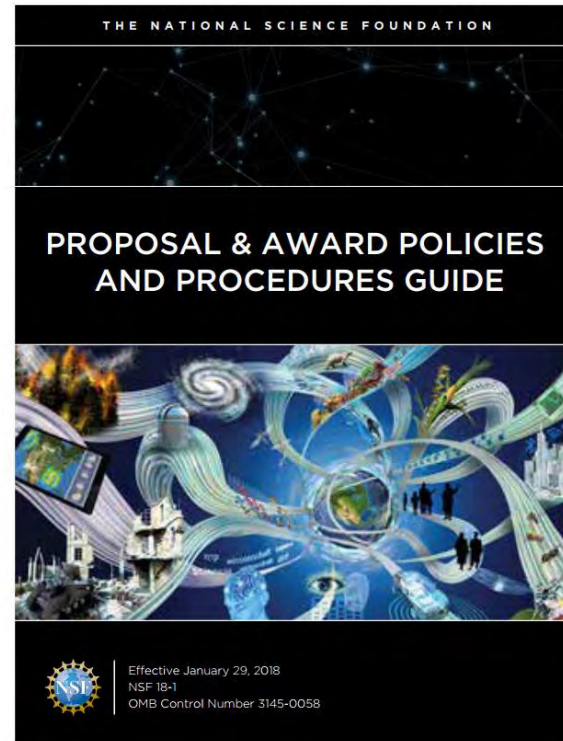
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NSF Resources

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.



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NSF Resources cont.

- 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
- Broader Impacts: www.nsf.gov/pubs/gpg/broaderimpacts.pdf
- FastLane: www.fastlane.nsf.gov

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Thank You!

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