U.S. Department of Education
STEM Newsletter

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STEM Education Updates from the

U.S. Department of Education

The U.S. Department of Education (ED or the Department) hopes this STEM newsletter provides resources and inspiration. The Department also maintains resources on its STEM landing page, including funding opportunities and archives of STEM briefings. You can manage your newsletter subscription and you are encouraged to invite your colleagues and friends to sign up as well!   The Department welcomes your feedback and questions. Please feel free to share them at STEM@ed.gov.
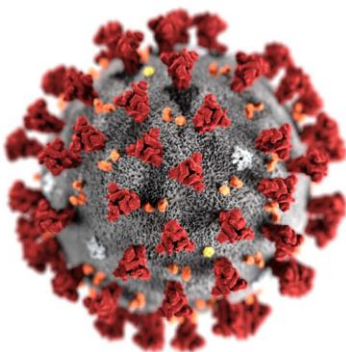
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COVID-19 Resources

The White House, the Department, and other federal agencies are continually releasing and updating information to support schools, educators, families, and students regarding COVID-19. In addition to the links below, please visit https://www.ed.gov/coronavirus for the latest education-related information and address questions for the Department to COVID-19@ed.gov.

- Coronavirus.gov, CDC.gov/Coronavirus, and USA.gov/Coronavirus
- Office for Civil Rights (OCR) webinar covering various civil rights issues that affect K-12 and postsecondary education, in light of the COVID-19 national emergency
- Additional regulatory flexibilities for institutions of higher education -- campus and fire safety reports, equity in athletics disclosures, and fiscal operations reports and applications to participate.

ED News

Safely Reopening America's Schools
Secretary DeVos, and other senior Administration officials continue to reiterate the importance of safely reopening America's schools this fall. Vice President Pence and Secretary DeVos held roundtable discussions on reopening schools in the fall with Governor Edwards of Louisiana and Governor McMaster of South Carolina, in the states' capitals of Baton Rouge and Columbia, respectively. The Vice President praised both governors' efforts aimed at making sure students can attend school in person this fall, adding, "I wouldn't hesitate to send my kids back to school based on the fact that the risk to children is low... There are real costs when our kids are not in the classroom."
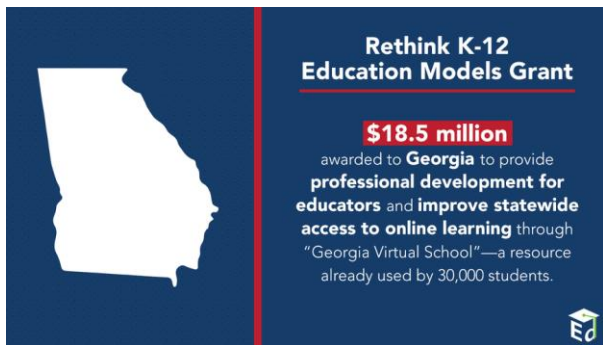
The Centers for Disease Control and Prevention (CDC) released audio of its July 24 media telebriefing on new science-based resources and tools for reopening schools safely for school administrators, teachers, parents, guardians, and caregivers (see CDC item below). Deputy Secretary of Education Mitchell Zais joined CDC Director Dr. Robert Redfield for the briefing. Deputy Secretary Zais also discussed reopening schools at the Texas Rural Education Association's Virtual Summer Conference.

In Indianapolis, the Vice President, the Secretary, and White House Coronavirus Task Force Coordinator Dr. Deborah Birx participated in a roundtable discussion with Governor Eric Holcomb and stakeholders at Marian University. In an interview, the Secretary asserted "parents and children can't be held captive to others' fears or agendas. We have got to get to a point in this country where we are supporting our families and focused on doing what is right for students…. We know it can be done safely, and for those teachers who may be vulnerable themselves, there are other things that can be done so that they can continue to contribute in a major way."

New Grant Awards to Expand STEM-Focused Education Opportunities for Students at HBCUs, MSIs
On August 10, U.S. Secretary of Education Betsy DeVos announced $3.9 million in new grant awards to 17 Historically Black Colleges and Universities (HBCUs) and other Minority Serving Institutions (MSIs) to improve science and engineering education programs for students. The grant is part of the Department of Education's Minority Science and

Engineering Improvement Program (MSEIP), which supports expanding the scientific and technological capacity of the United States to build global competitiveness by increasing the number of minority graduates in STEM fields. "The Administration is focused on making sure each and every student has access to the education opportunities they need to reach their full potential," said Secretary DeVos. "All too often, minority students lack access to STEM education and are underrepresented in STEM jobs. That's why this grant program is so important. It provides HBCUs and other MSIs the opportunity to expand and enhance their STEM offerings so their students can be prepared for the science and technology jobs of today and tomorrow." The press release lists all the grantees and the abstracts are available online.

$180 Million Awarded to States to Better Meet Students' Needs During Coronavirus Disruption
On July 29, the Secretary announced more than $180 million in new grant funding will be awarded to 11 states rethinking education to better serve students during the COVID-19 pandemic. The Rethink K-12 Education Models Grants program will support states' efforts to create new, innovative ways for students to continue learning in ways that meet their needs. Awardees include Georgia, Iowa, Louisiana, Maine, North Carolina, New York, Rhode Island, South Carolina, South Dakota, Tennessee, and Texas. The awards range from $6 million to $20 million. All applications and abstracts can be found online.

Secretary, Officials, Students, Parents Tout School Choice
U.S. Secretary of Education Betsy DeVos and Ohio State Senator Matt Huffman participated in a school choice roundtable discussion with students, parents, educators, and stakeholders on July 23, at Tree of Life Christian School in Columbus. The discussion focused on the importance of school choice, the Secretary's Education Freedom Scholarships proposal, and the challenges to and opportunities for education freedom presented by COVID-19. Several students spoke about what school choice has meant to them, including Tyreke Farquharson, who stated, "Without Tree of Life and school choice, I would not be the person I am."

"We have to think about the child, who is just like me, who begged my mom not to go back to public schools, and we have to stop the division between schools," said Walter Blanks, a scholarship recipient and alumnus of Tree of Life

Christian School. "It's not just the public schools that were affected by this pandemic. So, we have to be able to allow children to succeed in whatever environment is best for them."

Mark Your Calendar – Upcoming STEM Webinars

- August 25 - Cybersecurity Education
  - o Learn from leading experts, faculty, educators, and curricula developers about cybersecurity education:
    • Albert Palacios, Education Program Specialist, Office of Career, Adult and Technical Education, U.S. Department of Education
    • Dr. Davina Pruitt-Mentle, Lead for Academic Engagement, National Initiative for Cybersecurity Education, National Institute of Standards and Technology
    • Dr. Chuck Gardner. Director of Curriculum, CYBER.ORG
    • Dr. Lindsey Vincent, Associate Dean for Research, Outreach, and Innovation, Science and Technology Education Center, Louisiana Tech University
    • Kara Four Bear, Principal, New Town Middle School, Presidential Cybersecurity Award Winner, 2020
    • Donna Woods – CTE Cyber Academic Pathway Dual-Enrollment Instructor, Canyon Springs High School & Moreno Valley College, Presidential Cybersecurity Award Winner, 2020
- September 15 - STEM Teacher Preparation
- October 27 - Invention Education

Archived STEM Webinars

- What Do We Know about Computer Science Education?
- The Grand Challenges in STEM Education: Recruiting and Retaining 100K STEM Teachers in 10 Years
- Early Engineering Education and State Efforts
- The STEM Opportunity Index
- Family Engagement in STEM
- STEAM: Arts Supporting STEM
- STEM After School
- Distance Learning
- Early Math

Call to Action: Education Leaders Must Confront and Address Racial Discrimination
On June 26, the Secretary along with Assistant Secretary for Civil Rights Kenneth L. Marcus issued a *Call to Action* to education leaders to confront and address racial discrimination. July 2 marks the 56th anniversary of the *Civil Rights*

Act of 1964 (*Title VI*). The *Call to Action* states, "As education leaders, you must confront and address race discrimination in your schools. We encourage you to speak up for equal treatment, promptly address discrimination, and work proactively to promote educational excellence for all students in our schools." The Office of Civil Rights (OCR) will continue to vigorously enforce Title VI to ensure that no student is discriminated against based on their race, color, or national origin. For additional information on OCR's increased activity enforcing Title VI, see OCR's latest annual report. For more information, please contact OCR (OPEN@ed.gov, 800-421-3481), or visit www.ed.gov/ocr.

Grants for After School Citizen Science STEM Programs Awarded
The National Park Service (NPS) in partnership with the U.S. Department of Education and National Environmental Education Foundation (NEEF) has selected its first cohort of NPS units and their 21st Century Community Learning Centers (21stCCLC). The grants will provide underserved students access to authentic STEM experiences using environmental challenges, citizen science, and elements of NEEF's Greening STEM model. While supporting the NPS' unique mission—to preserve, unimpaired, the natural and cultural resources and values of the national park system—this effort will build educator capacity, forge lasting collaborations, and engender public lands stewardship. Recruitment for a second cohort will begin in early 2021.

National Assessment Governing Board Seeks Nominations
The 26-member Governing Board oversees the National Assessment of Educational Progress (NAEP), also known as 'The Nation's Report Card' seeks passionate people from diverse backgrounds who are committed to improving how student performance is measured and understood. By joining the Board, members advance as national leaders in education and help shape national assessment policy. NAGB is accepting nominations for the following positions September 8 through October 30, 2020:

- Elementary school principal
- General public representative
- Governor – Democrat
- Governor – Republican
- Testing and measurement expert

SBIR Investing in Next Generation of Education Technologies
In June, the Department's Small Business Innovation Research (SBIR) program announced more than $10M for 2020 awards for development and evaluation of technology to support students, teachers and administrators in PK-12 education and special education and students making postsecondary education decisions.

Funding Opportunities

Early-phase Education Innovation and Research (EIR) Grants Call for Proposals
On July 29, the Department published in the Federal Register, a notice inviting applications for the Education Innovation and Research (EIR) program's early-phase competition. This grant includes a STEM Absolute Priority and a Competitive Preference Priority for expanding opportunities in computer science for underserved populations such as minorities, girls, and youth from rural communities and low-income families. A pre-recorded pre-application webinar, as well as other competition-related updates and resources, can be found on the FY 2020 Competition page. You may direct questions to the following: EIR email: eir@ed.gov; EIR phone: (202) 453-7122. If you choose not to submit a grant application and will not participate in any other application to this year's competition, you may be interested in being a peer reviewer. Optional *Notice of Intent to Apply* deadline is August 18, 2020. Applications are due **September 10, 2020.**

Out of School Time Career Pathway Grant Opportunity
The 21st Century Community Learning Centers (21st CCLC) Out-of-School Time Career Pathway (OSTCP) program is open to state educational agencies that have developed a partnership to provide students expanded options to participate in a career pathway program, outside regular school hours, that leads to a recognized postsecondary credential, such as an industry-recognized certification or a certification of completion of an apprenticeship in an in-demand industry sector or occupation. There are two competitive preference priorities: 1) for programs that promote science, technology, engineering, and mathematics (STEM); and, 2) for programs that include students attending schools in rural areas. The 21st CCLC OSTCP program webpage, includes the Notice Inviting Applications, informational webinar, and other relevant information. Questions can be sent to: 21stCCLCcompetition@ed.gov. Applications are due **September 21, 2020.**

Rural Tech Challenge to Advance Technology Education
The Department recently announced a $600,000 challenge for rural high schools and local educational agencies to propose technology education programs that use competency-based distance learning. The Rural Tech Project will select up to five finalists. Each will receive an equal share of the $500,000 cash prize pool, on-the-ground assistance, and access to virtual resources. One grand prize winner will receive an additional $100,000. Proposals are due **October 8, 2020.**

Blockchain Innovation Challenge
On August 12, the Department's Office of Educational Technology and the American Council on Education announced

they will accept [applications](#) for the $900,000 Blockchain Innovation Challenge to build distributed ledger technology to help underserved learners take control of and communicate their skills to academic institutions and employers. The Challenge is the second stage of the Department's [Education Blockchain Initiative](#), that seeks to empower learners and translate skills and educational experiences into economic opportunity. The competition is informed by [Connected Impact: Unlocking Education and Workforce Opportunity Through Blockchain](#), a recent report that identified 71 active blockchain efforts across K-12 and higher education. For more information, join the Blockchain Innovation Challenge [Launch Event](#) on **August 19, 2020** at 2 PM ET. Teams that use an ecosystem-first design approach, including K-12 and higher education institutions, employers, community organizations, and/or technology providers must submit [applications](#) by **October 30, 2020**.

STEM Grantee Spotlight

i3* STEM Grantee Expands Student Horizons
The Girls and Guys Realizing Opportunities with STEM ([G2ROW STEM](#)) grant is a multi-year grant from the Department to Metro Nashville Public Schools (MNPS). According to Deanna Privette, MNPS STEM Grant Coordinator, the grant, "allows us to offer extended learning opportunities around STEM to under-represented students in seven area middle schools. Program components consist of after school sessions, Saturday sessions, as well as a STEM summer camp." In comparing year 4 to year 2 data, the project doubled the number of students served and doubled the percent of students who improved their standardized math scores. They experienced similar growth in science achievement from year to year.

Content-rich professional development (PD), successful implementation of a research-based engineering curriculum, *Engineering Everywhere,* and Project Based Learning pedagogy are key elements that empower the students to be more self-directed in their learning. "As one of their PD providers, I watched these teachers grow tremendously in their understanding of engineering and how it brings together all disciplines. This resulted in exceptional learning opportunities for their students," reports Stacy Klein-Gardner, Adjunct Professor of Biomedical Engineering.

During one Saturday session, the students learned about engineering careers at [Vanderbilt University](#). Civil and Environmental Engineering college student volunteers encouraged the middle schoolers to continue exploring STEM learning opportunities and to consider careers in civil engineering. One young student exclaimed, "Now in the future, I might want to be a computer scientist or a zoologist or even a science teacher because it was so cool just to learn."

*The i3 grant has been renamed the [Education Innovation and Research](#) program.

Other STEM Agency News

White House Announces 2020 Presidential Awards for STEM Teachers and Mentors
President Trump [announced](#) the 2020 recipients of the [Presidential Awards for Excellence in Mathematics and Science Teaching](#) and the [Presidential Awards for Excellence in Science, Mathematics, and Engineering Mentoring](#). Teachers are selected based on their distinction in the classroom and dedication to improving STEM education. Mentors support

learners from kindergarten through the collegiate levels, as well as those who recently started their careers in STEM and have demonstrated impact on individuals historically underrepresented in STEM.

Air Force JROTC Celebrates Inaugural Cyber Academy Graduates
Over the course of the 8-week Cyber Academy, funded by the National Science Foundation (NSF), 24 Junior Reserve Officer Training Corp (JROTC) cadets from 12 states, built skills in state-of-the-art computing and cybersecurity. The high school juniors and seniors comprised the first cohort of the JROTC-CS Demonstration Project. A blog post features some of the graduates.

NICE Framework Proposed Revision The National Initiative for Cybersecurity Education (NICE) Framework, NIST Special Publication 800-181, categorizes and describes cybersecurity work. The NICE Framework establishes a taxonomy and common lexicon that describes cybersecurity work and workers. The NICE Framework is intended to be applied in the public, private, and academic sectors. A draft revision is open for public comment through August 28, 2020.

New Reports

NSF INCLUDES Special Report to the Nation II
NSF INCLUDES (Inclusion Across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science) is a comprehensive national initiative designed to enhance U.S. leadership in discoveries and innovations by focusing on diversity, inclusion and broadening participation in STEM at scale. The new NSF Director, Sethuraman Panchanathan, issued this second report to the nation, that details the network and spotlights the alliances, federal partnerships, including the Department, and the benefits of joining the INCLUDES National Network. A recent blog by Sylvia James, NSF Deputy Assistant Director, Education and Human Resources Directorate, outlines some of the successes of the INCLUDES network and an NSF report provides statistical information about the participation of women, minorities and persons with disabilities in science and engineering.

PCAST Report
The President's Council of Advisors on Science and Technology (PCAST) issued Recommendations for Strengthening America Leadership in Industries of the Future (IotF). IotF include artificial intelligence (AI), quantum information science (QIS), advanced manufacturing, advanced communications, and biotechnology. Their recommendations fall under three pillars: a) enhancing multi-sector engagement in research and innovation; b) creating a new institute structure that integrates one or more of the IotF areas and spans discovery research to product development; and c) creating new modalities for ensuring the availability of a qualified, diverse IotF workforce. Under the workforce pillar, they identified two priorities: 1) build the workforce of the future by creating STEM training and education

opportunities for individuals from all backgrounds, including underrepresented and diverse populations and individuals from non-STEM backgrounds; 2) create new curricula and universal skills-based licenses and certifications for IotF.

Department Resources

For all things science, technology, engineering, and math (STEM) related, including computer science, visit the Department's updated STEM landing page and currently open ED Grants page to apply.

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Questions?
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