

# RWFI E-NOTE MONTHLY

REGIONAL WORKFORCE INITIATIVE • DECEMBER 2019

## Welcome Message

Greetings NETL RWFI stakeholders,

This month's funding spotlight highlights the *Secondary Agriculture Education Challenge Grant Program* with a deadline of February 6, 2019. You will also find a brief description of the recent meeting between NETL and regional advanced manufacturing ecosystem here: *NETL Shares Collaboration Opportunities in Advanced Manufacturing Meeting*.

As always, feel free to reach out to us at [NETL.RWFI@netl.doe.gov](mailto:NETL.RWFI@netl.doe.gov) if you have any suggestions for information to present in future E-notes.

— Sincerely, The NETL Regional Workforce Initiative Team

## Workforce Funding Announcements

FUNDING SPOTLIGHT

### *Secondary Agriculture Education Challenge Grant Program*

U.S. Department of Agriculture, National Institute of Food and Agriculture, **Deadline, February 6, 2020**

The Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K–12 Classroom Challenge Grants program seeks to: (a) promote and strengthen secondary education and two-year postsecondary education in the food, agriculture, natural resources, and human (FANH) sciences in order to help ensure the existence of a workforce in the United States that's qualified to serve the FANH sciences system; and (b) promote complementary and synergistic linkages among secondary, two-year postsecondary, and higher education programs in the FANH sciences in order to advance excellence in education and encourage more young Americans to pursue and complete a baccalaureate or higher degree in the FANH sciences.



### *Training-based Workforce Development for Advanced Cyberinfrastructure (CI)*

National Science Foundation, **Deadline, January 15, 2020**

This solicitation calls for innovative, scalable training, education, and curriculum/instructional materials — targeting one or both of the solicitation goals — to address the emerging needs and unresolved bottlenecks in scientific and engineering research workforce development, from the postsecondary level to active researchers. The funded activities — spanning targeted, multidisciplinary communities

— will lead to transformative changes in the state of research workforce preparedness for advanced CI-enabled research in the short- and long-terms. As part of this investment, this solicitation also seeks to broaden CI access and adoption by 1) increasing or deepening accessibility of methods and resources of advanced CI and of computational and data-driven science and engineering by a wide range of scientific disciplines and institutions with lower levels of CI adoption to date and 2) harnessing the capabilities of larger segments of diverse underrepresented groups.

### *Hispanic-Serving Institutions (HSI) — Education Grants Program*

U.S. Department of Agriculture, **Deadline, January 30, 2020**

The purpose of the HSI Education Grants Program is to encourage innovative teaching or education proposals with potential to impact and become models for other institutions that serve underrepresented students at the regional or national level. Projects supported by this program:

- Attract and support undergraduate and graduate students from underrepresented groups in order to prepare them for careers related to the FANH sciences in the United States.
- Enhance the quality of postsecondary instruction within the above disciplines.
- Provide opportunities and access to FANH careers in the public and private sector.
- Align the efforts of HSIs and other non-profit organizations to support academic development and career attainment of underrepresented groups.

### *Improving Undergraduate STEM Education (IUSE): Education and Human Resources (EHR)*

National Science Foundation, **Deadline, February 4, 2020**

The National Science Foundation (NSF) plays a leadership role in developing and implementing efforts to enhance and improve STEM education in the United States. Through the NSF IUSE initiative, the agency continues to make a substantial commitment to the highest caliber undergraduate STEM education through a Foundation-wide framework of investments. The IUSE: EHR is a core NSF STEM education program that seeks to promote novel, creative, and transformative approaches to generating and using new knowledge about STEM teaching and learning to improve STEM education for undergraduate students. The program is open to application from all institutions of higher education and associated organizations. NSF places high value on educating students to be leaders and innovators in emerging and rapidly changing STEM fields as well as educating a scientifically literate public. In pursuit of this goal, IUSE: EHR supports projects that seek to bring recent advances in STEM knowledge into undergraduate education, that adapt, improve, and incorporate evidence-based practices into STEM teaching and learning and that

lay the groundwork for institutional improvement in STEM education. In addition to innovative work at the frontier of STEM education, this program also encourages replication of research studies at different types of institutions and with different student bodies to produce deeper knowledge about the effectiveness and transferability of findings.

### *National Science Foundation (NSF) Research Traineeship (NRT) Program*

National Science Foundation, **Deadline, February 6, 2020**

The NRT program is designed to encourage the development and implementation of bold, new, and potentially transformative models for STEM graduate education training. The NRT program seeks proposals that explore ways for graduate students in research-based master's and doctoral degree programs to develop the skills, knowledge, and competencies needed to pursue a range of STEM careers. The program is dedicated to effective training of STEM graduate students in high priority interdisciplinary or convergent research areas, through the use of a comprehensive traineeship model that is innovative, evidence-based, and aligned with changing workforce and research needs. Proposals are requested in any interdisciplinary or convergent research theme of national priority, with special emphasis on the research areas in NSF's 10 Big Ideas. The NSF research Big Ideas are Harnessing the Data Revolution, The Future of Work at the Human-Technology Frontier, Navigating the New Arctic, Windows on the Universe: The Era of Multi-Messenger Astrophysics, The Quantum Leap: Leading the Next Quantum Revolution, and Understanding the Rules of Life: Predicting Phenotype.

### *Centers of Research Excellence in Science and Technology (CREST) and HBCU Research Infrastructure for Science and Engineering (HBCU-RISE)*

National Science Foundation, **Deadline, February 13, 2020**

The CREST program provides support to enhance the research capabilities of minority-serving institutions (MSI) through the establishment of centers that effectively integrate education and research. MSIs of higher education denote institutions that have undergraduate enrollments of 50% or more (based on total student enrollment) of members of minority groups underrepresented among those holding advanced degrees in science and engineering fields: African Americans, Alaska Natives, American Indians, Hispanic Americans, Native Hawaiians, and Native Pacific Islanders. CREST promotes the development of new knowledge, enhancements of the research productivity of individual faculty, and an expanded presence of students historically underrepresented in STEM disciplines. CREST Postdoctoral Research Fellowship (PRF) awards provide research experience and training for early career scientists at active CREST Centers. HBCU-RISE awards specifically target HBCUs to support the expansion of institutional research capacity as well as the production of doctoral students, especially those from groups underrepresented in STEM, at those institutions.

### *IUSE: Pathways into the Earth, Ocean, Polar, and Atmospheric & Geospace Sciences*

National Science Foundation, **Deadline, February 14, 2020**

The NSF's IUSE Initiative is a Foundation-wide effort to accelerate improvements in the quality and effectiveness of undergraduate education in all STEM fields including the learning, social, behavioral, and economic sciences. Undergraduate STEM education is critical for preparing both a diverse STEM workforce and a STEM-literate public that is ready to support and benefit from the progress of science. The IUSE initiative provides a Foundation-wide framework of investments to support the agency's commitment to the highest caliber undergraduate STEM education. By improving the quality and effectiveness of undergraduate education in all STEM fields, IUSE investments enable NSF to lead national progress toward a diverse and innovative workforce and a STEM-literate public.

### *Women and Minorities in STEM Fields (WAMS)*

U.S. Department of Agriculture, National Institute of Food and Agriculture, **Deadline, February 24, 2020**

The purpose of this program is to support research, education/teaching, and extension projects that increase participation by women and underrepresented minorities from rural areas in STEM. The National Institute of Food and Agriculture intends this program to address educational needs within broadly defined areas of food, agriculture, natural resources, and human (FANH) sciences. Applications recommended for funding must highlight and emphasize the development of a competent and qualified workforce in the FAHN sciences. WAMS-funded projects improve the economic health and viability of rural communities by developing research and extension initiatives that focus on new and emerging employment opportunities in STEM occupations. Projects that contribute to the economic viability of rural communities are also encouraged.

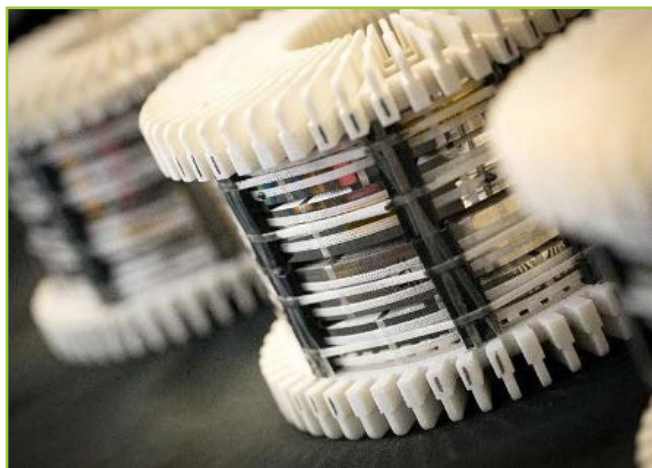
### *EHR Core Research (ECR): Building Capacity in STEM Education Research*

National Science Foundation, **Deadline, February 28, 2020**

ECR's Building Capacity for STEM Education Research solicitation supports projects that build individuals' capacity to carry out high quality STEM education research that will enhance the nation's STEM education enterprise and broaden the pool of researchers that can conduct fundamental research in STEM learning and learning environments, broadening participation in STEM fields and STEM workforce development..



NETL News



*NETL Shares Collaboration Opportunities in Advanced Manufacturing Meeting*

NETL Director Brian Anderson spoke at an advanced manufacturing roundtable December 19, 2019, at Hazelwood Green Mill 19 in Pittsburgh to discuss the Lab's ongoing and future work, vision, and potential for collaborative opportunities centered around advanced manufacturing in the region. The meeting was hosted by Catalyst Connection in collaboration with NETL and convened key stakeholders from across Appalachia to discuss priorities, opportunities, and challenges related to advanced manufacturing. Anderson described NETL's advanced manufacturing capabilities and communicated NETL's efforts and vision for an advanced manufacturing-based ecosystem in the Appalachian region and provided a framework for how the Lab and meeting attendees can work together going forward. Anderson offered opening remarks and led a panel of NETL experts that addressed collaboration in research, economic development, and industry with attendees.



*K-12 STEM Education & Outreach Team Serves West Virginia, Pennsylvania Communities in November*

NETL's K-12 STEM Education & Outreach team engaged students during several day-long visits at area elementary schools, conducted an educational energy workshop for teachers, assisted in a cybersecurity competition and aided two preliminary West Virginia Science Bowl (WVSB) regional qualifying events in November. The team's efforts to promote the value of STEM education across several platforms each month generates interest in STEM topics and provides opportunities for the next generation of scientists, problem-solvers, and critical thinkers. WVSB Regional Education Service Agency (RESA) Areas I-IV Regional Competitions (Institute, West Virginia; Athens, West Virginia) — The K-12 STEM Education & Outreach team provided support services to local RESA area Science Bowl coordinators at several WVSB qualifying competitions November 1–November 16, 2019. The

events serve as the WVSB preliminary competition to qualify teams from former RESA areas I–IV for the 2020 WVSB high school regional tournament. The events were held at West Virginia State University and Concord University.



*NETL Research Successes Advance Technology Solutions to America's Energy Challenges*

From developing energy conversion systems that use abundant fossil energy resources to produce power, fuels, and chemicals to developing and using advanced energy analysis models to support decision-making, NETL continues to aggressively pursue its mission to discover, integrate, and mature technology solutions to enhance the nation's energy foundation and protect the environment for future generations. NETL researchers had a productive year, underscored by forward-looking innovation and technology development. Here's a look at a few of our leading-edge successes from 2019. Moving Advanced Sensors toward Commercialization An NETL-developed sensing technology designed to enable more flexible operation of gas-fired power plants advanced toward commercialization as part of a partnership with turbine manufacturer Solar Turbines Incorporated.

**Upcoming Workforce Conferences, Meetings, and Summits**



*Appalachian Regional Commission (ARC) Partnerships for Opportunity and Workforce and Economic Revitalization (POWER) Initiative Application Regional Workshops*

Various Locations and Dates

Join ARC staff and other experts to learn how to develop a strong application for POWER 2020 in response to the POWER 2020 Request for Proposals (available in early December). All workshops will run from 9:00 a.m.–3:00 p.m. and are free to attend. Pre-registration required. Lunch will be provided.

- **Wednesday, January 15, 2020**, Ashland, Kentucky, [Register Now](#)
- **Tuesday, January 28, 2020**, Johnson City, Tennessee, [Register Now](#)

*Opportunity Appalachia Summit*

Bridgeport Conference Center, Bridgeport, WV, January 13, 2020

Please save the date for the Opportunity Appalachia Summit next January 13 at the Bridgeport Conference Center in Bridgeport, West Virginia. Opportunity Appalachia is a three-state program (WV, OH, and VA) that will provide technical assistance resources of up to \$50,000 (each) to up to five West Virginia-based communities, projects, and/or developers located in Opportunity Zones. This Summit will share detailed information on Opportunity Appalachia, provide project-relevant training on strategies to move Opportunity Zone projects to investment readiness and launch the application process for the program funding.

*American Association of Community Colleges' (AACC) Workforce Development Institute*

Omni Amelia Island Plantation Resort, Amelia Island, FL, January 22–25, 2020

Registration is open for AACC's *Workforce Development Institute* January 22–25, 2020, on Amelia Island, Florida. The theme is "Economic Innovators." The annual institute brings together community college workforce development leaders, industry, federal agencies, and foundations.

**Reports and Resources**



*LinkedIn November*

The LinkedIn Workforce Report is a monthly report on employment trends in the U.S. workforce. It is divided into two sections: a national section that provides insights into hiring, skills gaps, and migration trends across the country and a City section that provides insights into localized employment trends in 20 of the largest U.S. metro areas.

Key November findings:

- **Hiring** — Gross hiring across all industries in the U.S. was 3.9% lower this month than in October 2018. Seasonally-adjusted national hiring was 1.6% lower in October from September 2019.
- **Migration** — The U.S. cities gaining the most professionals this month are *Austin, TX; Nashville, TN;* and Charlotte, NC.
- **#AmericaAtWork** — LinkedIn Editor George Anders took a closer look at the transportation industry in his *#AmericaAtWork series* this month, revealing the top cities where transportation jobs are booming and the fastest-growing jobs in the industry.

**DOE STEM Rising**



*Internships Fuel Research for Engineering Students from Puerto Rico*

For Edgardo Desarden Carrero, a student in the newly created electrical engineering doctorate program at the University of Puerto Rico, Mayagüez, his two summers working in resilient energy systems research at Sandia National Laboratories was his first internship. He is an unusual student in that he is also a professor of electrical engineering technology at the University of Puerto Rico, Aguadilla.

*Inspiring the Cyber Workforce of the Future... One Celebration at a Time*

Computer Science Education Week is aimed at inspiring students to discover computer science activities and careers, and our National Laboratories will be holding a number of activities to highlight DOE's efforts, including increasing access to computer science education, building computational literacy, and growing the cyber workforce of the future.



*IEA Ministerial C3E Side Event 2019*

Last week at the International Clean Energy Education Empowerment (C3E) Initiative's Women in Energy event, "Women in Energy: Advancing Equal Participation for a Clean Energy Future," I was pleased to announce that the U.S. will lead the improved and revitalized International C3E Ambassadors and Mentorship Workstream. These talented leaders in clean energy will represent our effort to advocate for the recruitment, retention, and advancement of women in the energy sector, and serve as role models in clean energy across government, academia, and the private sector.





**Building a Computer Literate Workforce**

The U.S. Department of Energy's National Laboratories, the National Nuclear Security Administration, and Program Offices have a wide variety of cyber-focused STEM programs that aim to inspire, educate, and spark students on an upwards trajectory to lifelong success in cyber careers. We offer programs for every age, from kindergarten through post-doc, as well as for those currently in the workforce. They're designed to engage students with cyber professionals from our National Laboratories, provide them with hands-on learning experiences, place them in internship and fellowship positions, share educational resources, and do even more. Read on to learn about our efforts across the nation.



**Argonne launches First Look@Argonne: A minorities STEM conference**

Diversity, inclusion, and internships with premier researchers were the topics that attracted about 100 undergraduate students during Argonne National Laboratory's First Look@Argonne: A Minorities in STEM Conference. This first daylong event on November 22, 2019 was hosted by Argonne and provided STEM students an opportunity to explore Argonne facilities, meet researchers, and learn about paid summer internships. The students were from 14 colleges and universities that belong to the Louis Stokes Alliances for Minority Participation program, including the University of Illinois at Chicago, Northeastern Illinois University, Northwestern University, Moraine Valley Community College, Prairie State University, Benedictine University, Northern Illinois University, and Purdue University.

**ABOUT NETL**



NETL, owned and operated by DOE, is one of the Department's 17 National Laboratories. NETL supports DOE's mission to advance the national, economic, and energy security of the United States.

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