

RWFI E-NOTE MONTHLY

REGIONAL WORKFORCE INITIATIVE • OCTOBER 2019

Welcome Message

Greetings NETL RWFI stakeholders,

This month's funding spotlight highlights the Louis Stokes Alliance for Minority Participation Award from the National Science Foundation with a deadline of November 11, 2019. Also in this edition of the RWFI E-note you will find the release of the National Science Board's Workforce Taskforce's recommendations for supporting the US's technical workforce needs with the report *THE SKILLED TECHNICAL WORKFORCE: Crafting America's Science & Engineering Enterprise*.

As always, feel free to reach out to us at 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

Louis Stokes Alliances for Minority Participation

National Science Foundation, **Deadline, November 11, 2019**

The Louis Stokes Alliances for Minority Participation (LSAMP) program is an alliance-based program. The program's theory is based on the Tinto model for student retention with the overall goal of the program to assist universities and colleges in diversifying the nation's STEM workforce by increasing the number of STEM baccalaureate and graduate degrees awarded to populations historically underrepresented in these disciplines: African Americans, Hispanic Americans, American Indians, Alaska Natives, Native Hawaiians, and Native Pacific Islanders. The LSAMP program takes a comprehensive approach to student development and retention. Particular emphasis is placed on transforming undergraduate STEM education through innovative, evidence-based recruitment and retention strategies, and relevant educational experiences in support of racial and ethnic groups historically underrepresented in STEM disciplines.



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

National Science Foundation, **Deadline, December 06, 2019**

The Centers of Research Excellence in Science and Technology (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. MSI's 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 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 studies, at those institutions. CREST Center awards provide multi-year support (typically five years) for eligible minority-serving institutions that demonstrate a strong research and education base, a compelling vision for research infrastructure improvement, and a comprehensive plan with the necessary elements to achieve and sustain national competitiveness in a clearly defined area of national significance in science or engineering research. Successful Center proposals will demonstrate a clear vision and synergy with the broad goals of the CREST Program and the Human Resource Development Division with respect to development of a diverse STEM workforce.

Improving Undergraduate STEM Education: Education and Human Resources (IUSE:HER)

National Science Foundation, **Deadline, December 4, 2019**

The fields of STEM hold much promise as sectors of the economy where we can expect to see continuous vigorous growth in the coming decades. STEM job creation is expected to outpace non-STEM job creation significantly, according to the Commerce Department, reflecting the importance of STEM knowledge to the US economy. 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.

Alliances for Graduate Education and the Professoriate

National Science Foundation, **Deadline, December 13, 2019**

The Alliances for Graduate Education and the Professoriate (AGEP) program seeks to advance knowledge about models to improve pathways to the professoriate and success for historically underrepresented minority doctoral students, postdoctoral fellows and faculty, particularly African Americans, Hispanic Americans, American Indians, Alaska Natives, Native Hawaiians, and Native Pacific Islanders, in specific STEM disciplines and/or STEM education research fields. New and innovative models are encouraged, as are models that reproduce and/or replicate existing evidence-based alliances in significantly different disciplines, institutions, and participant cohorts. The AGEP program goal is to increase the number of historically underrepresented minority faculty, in specific STEM disciplines and STEM education research fields, by advancing knowledge about pathways to career success. The program objectives include: To support the development, implementation and study of innovative models of doctoral education, postdoctoral training, and faculty advancement for historically underrepresented minorities in specific STEM disciplines and/or STEM education research fields; and to advance knowledge about the underlying issues, policies and practices that have an impact on the participation, transitions and advancement of historically underrepresented minorities in the STEM academy.

NETL News

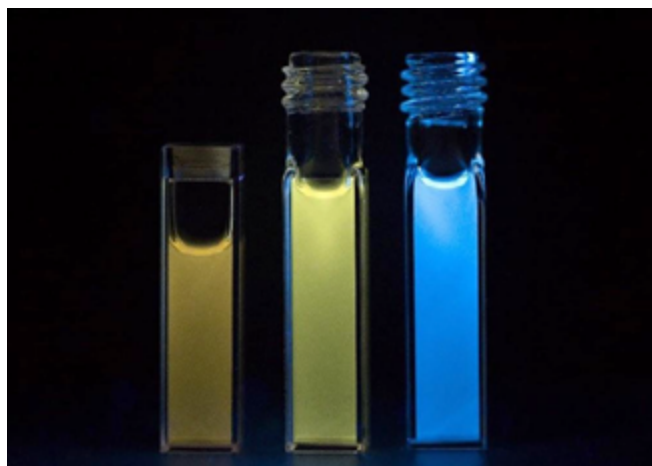


NETL Women Take Center Stage at 2019 Women & Technology Conference

Female leaders serving in a variety of roles at NETL shared their professional pathways and unique perspectives on mentoring with other women at TechConnect West Virginia's 2019 Women & Technology Conference. The conference, held October 21, 2019, in Charleston, WV, was designed for women working in technology fields, as well as those interested in pursuing or migrating to a technology-focused career. The event featured inspiring keynote speakers, valuable networking opportunities and educational breakout sessions. NETL's Office of Science and Technology Career Management and TechConnect organized a panel discussion focused on women finding their voices and taking the lead. Participants explored strategies for women to maximize the impact of using their own voices, leverage their networks, and address fear and risk.

NETL Has Prominent Role at TransTech Energy Conference

Key researchers and leadership from NETL are set to present the details of revolutionary energy technologies at the eighth annual TransTech Energy (TTE) Start-Up Development Conference, taking place October 28–30, 2019, at the Hilton Garden Inn in Southpointe, Canonsburg, PA. TTE was created to provide an opportunity for innovators and entrepreneurs from throughout the Mid-Atlantic states to pitch ideas, products, projects, apps and discoveries to venture and angel investors, potential strategic partners, project and economic developers, potential customers and the public. The conference is organized by West Virginia University and supported by Carnegie Mellon University, Case Western Reserve University and the University of Pittsburgh, along with local sponsors. (West Virginia University will issue a media advisory with details for regional media outlets interested in covering the conference.) NETL has been a frequent participant in TTE conferences, where information about the Lab's energy technology innovations are presented as "pitches" for funding opportunities.



Carbon Nanomaterials Research Offers New Opportunities for Coal

As America's energy landscape evolves, NETL is advancing emerging technologies that offer new economic opportunities for the nation's most abundant domestic resource — coal. Converting coal to high-value carbon nanomaterials has the potential to reduce manufacturing costs and energy consumption while improving the performance of electronics, batteries, solar cells, cements, plastics and other in-demand consumer products. Carbon nanomaterials are tiny, carbon-based materials with unique properties that enhance the mechanical strength, optical properties, corrosion resistance, and thermal and electrical conductivity of materials. Traditionally derived from petroleum or graphite feedstocks, their use in commercial products has been limited largely due to high manufacturing costs and finite supplies. As an affordable alternative, NETL and its partners are developing simple, scalable methods to produce carbon nanomaterials from coal and coal byproducts.

NETL Experts Discuss Coal-Derived Carbon Fiber Research at National Stakeholders Meeting in Detroit

Development and commercialization of coal-derived carbon fiber composites to meet the needs of industries, improve the nation's energy and environmental security and create new U.S. manufacturing jobs is the focus of the Institute for Advanced Composites Manufacturing Innovation stakeholders' event which occurred October 16, 2019, in Detroit, MI, where NETL experts were a key part of the discussions. Carbon fiber is a material composed of thin, strong crystalline filaments of carbon that can be thinner than a strand of human hair yet is five times stronger than steel and twice as stiff. Carbon fiber can be laid over a mold and coated in resin or plastic. It is a popular material in aerospace, automotive, military and recreational applications. In addition to its strength, carbon fiber is high in stiffness and tensile strength, has a low weight to strength ratio, has high chemical resistance, is temperature tolerant to excessive heat, and has low thermal expansion.

Upcoming Workforce Conferences, Meetings, and Summits



Appalachian Gateway Communities Regional Workshop

Steele Creek Park & Nature Center, Bristol, TN, November 5–7, 2019

Sponsored by the Appalachian Regional Commission and the National Endowment for the Arts, this three-day workshop will provide teams with skills to capitalize on opportunities related to sustainable drivers for local economic development, cultural heritage and natural resource tourism, public arts promotion, and preservation and stewardship of community character.

Philanthropy West Virginia 2019 Annual Conference and Leadership Summit

The Blennerhassett Hotel, Parkersburg, WV, November 6–7, 2019

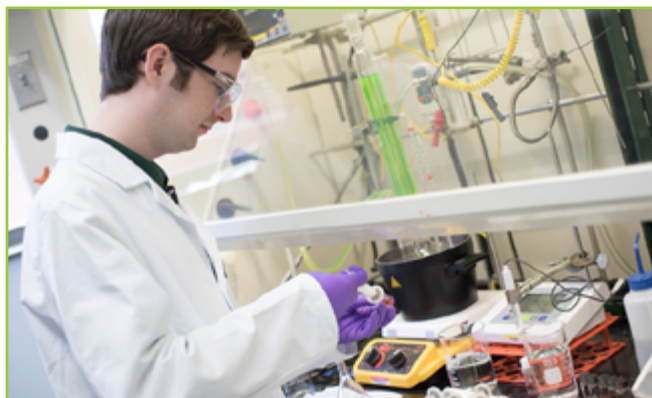
When philanthropy partners with the private, nonprofit, and public sectors, communities see better opportunities and progress. To put forward a positive focus for West Virginia's future, philanthropy wants to learn, promote, and advance collaborative efforts that strengthen our individual work and impact. The Philanthropy West Annual Conference brings these stakeholders together. As West Virginia's leading voice and premiere resource for philanthropy, Philanthropy West Virginia is committed to helping its members fulfill their charitable goals. It does so by providing opportunities for trustees and staff to network, build skills, enhance knowledge and demonstrate leadership. Philanthropy WV is the forum for funders to exchange information, discuss common interests, learn about relevant issues, hone their grantmaking skills and establish networks of important relationships across the state. Through its programs and services, Philanthropy WV helps funders become more efficient, effective grantmakers.

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, FL. The theme is "Economic Innovators." The annual institute brings together community college workforce development leaders, industry, federal agencies, and foundations

Reports and Resources



LinkedIn September Workforce Report

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 twenty of the largest U.S. metro areas.

Key September findings:

- Nationally, across all industries, gross hiring in the U.S. was 0.9% higher than in August 2018. Seasonally adjusted national hiring did not change between August and July 2019. The industries with the most notable hiring shifts year-over-year in August were Design (40.3% higher y/y); Media & Communications (27.7% higher y/y); and Arts (25.5% higher y/y).
- Seasonally adjusted national hiring rates continue to show growth since last year, but the manufacturing and agriculture industries have been trending downward since March 2018 — when trade tensions between the U.S. and its major economic partners began to mount. The manufacturing industry is down 0.6% and the agriculture industry is down 2.9% since March 2018, compared to the national hiring rate that is up 3.7% during the same time period.
- Metro areas in the southern United States are seeing some of the sharpest drops in the seasonally adjusted hiring rate for manufacturing. The hardest-hit metro area since March 2018 is Reno, NV, with a 47% drop in the manufacturing hiring rate. Three other Sunbelt cities — Birmingham, AL; Little Rock, AR, and Baton Rouge, LA — all showed drops of 30% or more. Only one of the ten metro areas with the steepest drops in manufacturing seasonally-adjusted hiring was in the traditional manufacturing heartland of the U.S.: Fort Wayne, IN.

THE SKILLED TECHNICAL WORKFORCE: Crafting America's Science & Engineering Enterprise

National Science Foundation, September 2019

The National Science Board (NSB) Task Force on the Skilled Technical Workforce was charged with identifying the opportunities and challenges facing students, incumbent workers, businesses, educators, and others involved with the skilled technical workforce (STW) and recommending to the NSB strategies to strengthen the STW. Estimates suggest that there are over 16 million skilled technical jobs for workers with an associate degree, or similar level qualification, rather than a four-year degree.

DOE STEM Rising



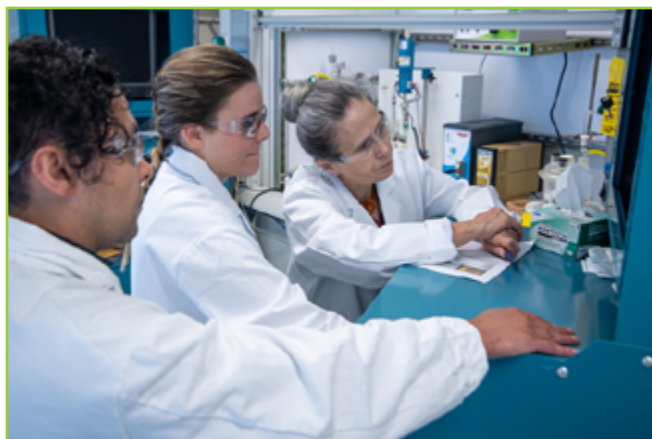
National Hispanic Science and Engineering Organization Honors Two Sandia Researchers

Materials scientist Nic Argibay and health and safety senior manager Rafael Gonzalez were honored at the 31st annual Hispanic Engineer National Achievement Awards Conference by Great Minds in STEM, a nonprofit organization that recognizes Hispanic leadership and achievement in STEM. Argibay received a Most Promising Scientist or Engineer award and Gonzalez received a Luminary award during the society's annual conference in late September.



Magic Tricks, Virtual Reality, and Trash Sorting: DOE STEM-CON Exposes Chicago's South Side to Diverse STEM Opportunities and AI Advances

In conjunction with DOE's InnovationXLab Artificial Intelligence Summit, DOE's Argonne National Laboratory collaborated with South Side of Chicago's Gary Comer Youth Center to host a multi-national DOE lab exhibition for local youth, showcasing the wide range of real-world ways they can use and have fun with computing and artificial intelligence.



DOE To Host 2019 CyberForce Competition

DOE will host its 2019 CyberForce Competition on Saturday, November 16, 2019, at 10 DOE National Laboratories across America. The event will unite 105 college and university teams to compete against each other and defend a simulated cyber-physical infrastructure from professionally executed cyberattacks. This year, DOE is also hosting a CyberForce Professional Pilot to coincide with the collegiate competition.

DOE's National Nuclear Security Administration (DOE/NNSA) expands STEM program at Minority Serving Institutions

DOE/NNSA has expanded its Minority Serving Institution Partnership Program to include four new consortia across 12 schools. The program supports six consortium-based teams at Historically Black Colleges and Universities, Tribal Colleges and Universities, and Hispanic-Serving Institutions. Participants all share interests in STEM research areas and utilize the facilities and technology available at DOE/NNSA's labs, plants, and sites to further their studies.

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.

1450 Queen Avenue SW
Albany, OR 97321-2198
541-967-5892

3610 Collins Ferry Road
P.O. Box 880
Morgantown, WV 26507-0880
304-285-4764

626 Cochran's Mill Road
P.O. Box 10940
Pittsburgh, PA 15236-0940
412-386-4687

Program staff are also located in
Houston, Texas and Anchorage, Alaska

WEBSITE: www.netl.doe.gov



CONTACTS

Anthony Armaly
NETL R W F I Federal
Coordinator
412-386-6040
Anthony.Armaly@netl.doe.gov

Kirk Gerdes
Regional Workforce Initiative
Coordinator
304-285-4342
Kirk.Gerdes@netl.doe.gov

Mike Knaggs
Associate Director
of Partnerships
304-285-4926
Michael.Knaggs@netl.doe.gov

Matthew Garcia
Regional Workforce Initiative
Consultant
956-314-0645
Matthew.Garcia@netl.doe.gov