

RWFI E-NOTE MONTHLY

REGIONAL WORKFORCE INITIATIVE • MAY 2019

Welcome Message

Greetings NETL RWFI stakeholders,

In this month's E-note you will find new funding opportunities from the Department of Labor and the National Science Foundation. You will also see information on our Energy Jobs Data Webinar scheduled for May 30, 2019, from 1–2 p.m. where data specific to the region, along with national data will be presented from the U.S. Energy and Employment Report. You can find the full Energy Futures Initiative report in the reports and resources section in this E-Note. The agenda for the webinar and registration information can be found on our new NETL RWFI Events website at <https://netl.doe.gov/business/rwfi/events>. Also new to the NETL RWFI website is a place for you to find all previous webinar slides archived at <https://netl.doe.gov/business/rwfi/archivewebinar>.

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



Directorate for Education and Human Resources Core Research: Building Capacity in STEM Education Research (ECR: BCSER)

National Science Foundation, **Deadline, June 7, 2019**

ECR: BCSER 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. Specifically, ECR: BCSER supports activities that enable early and mid-career researchers to acquire the requisite expertise and skills to conduct rigorous fundamental research in STEM education. ECR: BCSER seeks to fund research career

development activities on topics that are relevant to qualitative and quantitative research methods and design, including the collection and analysis of new qualitative or quantitative data, secondary analyses using extant datasets, or meta-analyses. This career development may be accomplished through investigator-initiated projects or through professional development institutes that enable researchers to integrate methodological strategies with theoretical and practical substantive issues in STEM education. Early and mid-career faculty new to STEM education research, particularly underrepresented minority faculty and faculty at minority-serving and two-year institutions, are encouraged to submit proposals. As a special emphasis under this solicitation, ECR: BCSER seeks proposals that will result in a single award for the development and implementation of an ECR Data Resource Hub. The hub will facilitate data sharing and analysis and provide technical assistance to advance data skills, tools, and resources across the STEM education research community.

FY20 Environmental Workforce Development and Job Training Grants

Environmental Protection Agency, **Deadline June 10, 2019**

This notice announces the availability of funds and solicits proposals from eligible entities, including nonprofit organizations, to deliver Environmental Workforce Development and Job Training programs that recruit, train, and place local, unemployed, and under-employed residents with the skills needed to secure full-time employment in the environmental field. While Environmental Workforce Development and Job Training Grants require training in brownfield assessment and/or cleanup activities, these grants also require that Hazardous Waste Operations and Emergency Response training be provided to all individuals. The Environmental Protection Agency encourages applicants to develop their curricula based on local labor market assessments and employers' hiring needs while also delivering comprehensive training that results in graduates securing multiple certifications.

Industry-University Cooperative Research Centers Program

National Science Foundation, **Deadline, June 19, 2019**

The Industry-University Cooperative Research Centers (IUCRC) program develops long-term partnerships among industry, academe, and government. The Centers are catalyzed by an investment from the National Science Foundation (NSF) and are primarily supported by industry Center members, with NSF taking a supporting role in the development and evolution of the Center. Each Center is established to conduct research that is of interest to both the industry members and the Center faculty. An IUCRC contributes to the nation's research infrastructure base and enhances the intellectual capacity of the engineering

and science workforce through the integration of research and education. As appropriate, an IUCRC uses international collaborations to advance these goals within the global context.

Office of Naval Research, on behalf of the Office of the Secretary of Defense, for the Manufacturing Engineering Education Program

Office of Naval Research, **Deadline, June 20, 2019**

Proposed efforts should develop and enhance curricula and programs to effectively develop skill sets needed for students to operate in multidisciplinary design and manufacturing environments, including those for which manufacturing schema are informed by computational tools for modeling and simulation. Students also should be prepared to work effectively in environments where multiple engineering disciplines are engaged during design, development and manufacturing, and where the roles of manufacturers and suppliers in businesses of various sizes, from start-ups to major systems integrators, are optimized. Curricula and programs that develop shop-floor capabilities are also sought and may include welding; manufacturing-related programming (Computer Numerical Control, Computer Aided Design, Programmable Logic Controllers, logic, robotic control, etc.); operation and maintenance of state-of-the-art manufacturing equipment/tooling; process monitoring and optimization, and in-line quality assurance; and manufacturing, supply chain, and distribution management.

Science of Learning (SL) Program

National Science Foundation, **Deadline, July 10, 2019**

The SL program supports potentially transformative basic research to advance the science of learning. The goals of the SL Program are to develop basic theoretical insights and fundamental knowledge about learning principles, processes and constraints. Projects that are integrative and/or interdisciplinary may be especially valuable in moving basic understanding of learning forward but research with a single discipline or methodology is also appropriate if it addresses basic scientific questions in learning. The possibility of developing connections between proposed research and specific scientific, technological, educational, and workforce challenges will be considered as valuable broader impacts, but are not necessarily central to the intellectual merit of proposed research. The program will support research addressing learning in a wide range of domains at one or more levels of analysis including molecular/cellular mechanisms; brain systems; cognitive, affective, and behavioral processes; and social/cultural influences.

Workforce Opportunity for Rural Communities: A Grant Initiative for the Appalachian and Delta Regions

Department of Labor, **Deadline, July 15, 2019**

Employment and Training Administration/U.S. Department of Labor, in partnership with the Appalachian Regional Commission and the Delta Regional Authority, announce the available funds for demonstration grant projects supporting alignment of workforce development with existing strategies and plans for economic development and diversification in rural communities from the following areas hard hit by economic transition and

recovering slowly: 1) The Appalachian region, as defined in 40 U.S.C. 14102(a)(1), and 2) The Lower Mississippi Delta (Delta) region, as defined in 7 U.S.C. 2009aa(2). These grants will enable eligible applicants within the Appalachian and Delta regions to expand the impact of existing workforce development initiatives, as well as provide valuable career, training, and support services to eligible individuals in counties and parishes and/or areas currently underserved by other resources. These grants support workforce development activities that prepare dislocated workers, new entrants to the workforce, and incumbent workers for good jobs in high-demand occupations aligned with a regional or community economic development strategy.

NETL News



NETL Experts Participate in Energy Department's Cyber Conference

NETL's Chief Information Officer Antonio Ferreira, Ph.D., and Kelly Rose, Ph.D., a geo-data scientist in the Lab's Research and Innovation Center, participated in the DOE's Cyber Conference, May 14–16, 2019, in Denver, Colorado. The conference brought together the DOE enterprise, federal interagency partners, academia, international collaborators and private industry to advance cyber and information technology modernization efforts across DOE's diverse and shared missions.



ExxonMobil, National Renewable Energy Laboratory (NREL) Partnership to Expand Key NETL Research Programs

NETL will expand key research programs aimed at advancing groundbreaking low-emissions energy technologies under a new 10-year partnership with ExxonMobil and NREL. Per agreements announced Wednesday, May 8, 2019, ExxonMobil will invest up to \$100 million in cooperative research and development aimed at reducing greenhouse gas emissions from the growing power generation, transportation and manufacturing industries. The influx of funding will allow NETL to expand research on carbon capture and storage, carbon dioxide utilization,

oil and gas, enhanced oil recovery, and more. Collaborative research will target breakthroughs in advanced biofuels, life-cycle assessment, process intensification, carbon capture, and other emerging low-carbon technologies. The goal is to develop innovative technologies that make advanced energy systems more efficient so they use less fuel and generate fewer emissions or mitigate the carbon generated through safe and cost-effective means.



NETL Pursues Innovative Distributed Sensing System for Harsh Energy Environments

Turbines, nuclear power plants, and chemical reactors operate at increasingly higher temperatures to boost efficiency and reduce expenses. However, these extreme temperatures also create harsh environments that contribute to corrosion, oxidation, and other materials challenges in monitoring advanced energy systems. NETL's novel laser-heated pedestal growth system enables researchers to fabricate custom single-crystal optical fibers from bulk materials, such as sapphire or yttrium aluminum garnet, that can withstand ultra-high temperatures. Now, researchers are building upon that work to incorporate these specially made fibers into fully distributed sensing systems that effectively monitor temperatures, strains, or other important parameters up to 1,500 degrees Celsius (more than 2,700 degrees Fahrenheit).

Alleghenies Ahead Creating an Entrepreneurial Spirit in the Workplace

Blair County Convention Center, Altoona, PA, June 5, 2019

Join for a day filled with innovative and business transforming ideas presented by leaders in workforce development and management. Whether you are a leader in your own business, start-up, or part of the corporate world, today's competitive marketplace demands that we embrace an entrepreneurial attitude to succeed. And we must empower our workforce to do the same.

Community Colleges of Appalachia 27th Annual Conference

Doubletree by Hilton Hotel Asheville, Asheville, NC, June 9–11, 2019

Community Colleges: Catalysts for Entrepreneurship, Economic Development and Empowerment. A look at how community colleges play an important role in creating entrepreneurial and innovation ecosystems.

Appalachian Education and Workforce (AEW) Network 2019 Annual conference

Hilton Garden Inn, Pikeville, KY, June 18–20, 2019

The AEW Network hosts an annual conference to provide high-level professional development for individuals focused on increasing post-high school education and training access and success in rural places. The two-day conference is held in late June 2019 and brings together individuals working in or on behalf of a broad array of institutions and agencies: school districts, 2- and 4-year colleges and universities, workforce development boards, economic development agencies, community-based advocacy organizations, as well as policymakers from local, regional, state, and national levels focused on increasing prosperity. Plenary and workshop sessions introduce participants to “doers and thinkers,” as well as “critics and advocates.” Special workshops showcase the best or promising practices promoting post-high school education and training success in rural America and provide a small group forum in which new professional relationships can be developed.

Upcoming Workforce Conferences, Meetings, and Summits



2019 U.S. Energy Jobs and Employment Report Briefing Webinar

Webinar, Thursday, May 30th, 2019 1–2 p.m. ET

NETL's RWFI invites you to attend the 2019 U.S. Energy Jobs and Employment Report (USEER) Briefing webinar, where you will learn about the current state of the energy and advanced manufacturing workforce for the tri-state (Pennsylvania, Ohio, and West Virginia) and the broader Appalachian region as well as emerging national trend and national energy jobs data. Registration is free but limited

Reports and Resources



March 2019 LinkedIn Workforce Report

LinkedIn

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

- Hiring, mirroring trend seen after previous natural disasters, hiring is down across the Midwest. We saw a significant decrease in hiring rates across metro areas in the Midwest impacted by catastrophic flooding, including: Omaha (-7.6%), Fargo (-13.6%), and Kansas City (-0.6%). Historically, data shows it takes a city approximately two months for hiring rates to rebound after similarly catastrophic natural disasters — the year-over-year hiring rates in *Houston* and *Miami* dropped sharply (-7.6% and -17.6%, respectively) during the months of hurricanes Irma (September 2017) and Harvey (August 2017).

State of the Energy Workforce 2018

Center for Energy Workforce Development

Today's energy workforce is in the midst of significant transformation, driven in large part by the industry's Game Changers, which this report explores in depth. The skills requirements of the workforce are being impacted in ways not seen in Center for Energy Workforce Development's (CEWD) history. Industry Game Changers have been part of CEWD's lexicon for many years and represent the potential for significant shifts in size, skills, and knowledge requirements of the current and future energy workforce.

The 2019 U.S. Energy and Employment Report

Energy Futures Initiative and the National Association of State Energy Officials

USEER provides a unique window on the people who meet the nation's energy needs, and identifies important trends and skill sets for the 21st Century energy workforce. Energy Futures Initiative, a not-for-profit clean energy think tank led by former U.S. Secretary of Energy Ernest Moniz, and the *National Association of State Energy Officials*, which represents the 56 governor-designated State and Territory energy officials, teamed up to produce the 2018 USEER and are again producing this report.

DOE STEM Rising



We're Ready: Preparing and Inspiring the Next Generation of Top Cybersecurity Talent

Approximately 1.5 million unfilled cybersecurity jobs are open as of this year. And many of these jobs that need highly-skilled cybersecurity workers are in the national government, where we work every day to keep our nation's nuclear stockpile and energy grid, supplies, and technologies safe and secure.

'Spaghetti Strength' to Race to the Future Hydrogen Fuel Cell

More than 440 science projects from 100 Suffolk County elementary schools were entered the 2019 Elementary School Science Fair. The Fair, sponsored by the DOE's Brookhaven National Laboratory and coordinated by the Lab's Office of Educational Programs, was held at the Laboratory on May 4, 2019. Brookhaven scientists, engineers, and technical staff (as well as teachers from local elementary schools) judged the projects.

ORISE report shows number of nuclear engineering doctoral degrees spike to highest level in 52 years

The number of nuclear engineering doctorate degrees awarded in 2018 reached the highest level recorded since 1966. This is according to an annual study conducted by the *Oak Ridge Institute for Science and Education* which surveyed 35 U.S. universities with nuclear engineering programs. The report, *Nuclear Engineering Enrollments and Degrees Survey, 2017–2018 Data*, includes degrees granted between September 2016 and August 2017, and September 2017 and August 2018.

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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