

RWFI E-NOTE MONTHLY

REGIONAL WORKFORCE INITIATIVE • MARCH 2019

Welcome Message

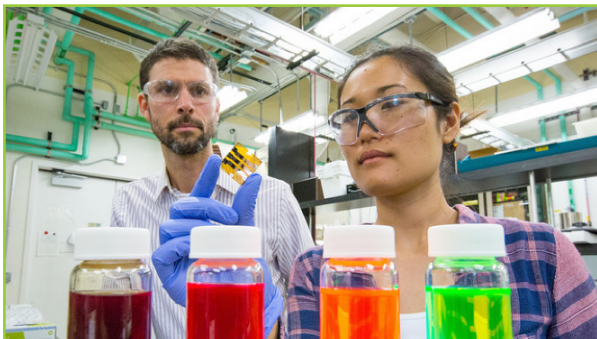
Greetings NETL RWFI stakeholders,

In this month's funding highlights, we present a new request for proposals from the National Science Foundation's *Industry-University Cooperative Research Centers Program*. The Industry-University Cooperative Research Centers (IUCRC) program develops long-term partnerships among industry, academe, and government. Also in this month's E-note is a link to the recently released *2019 U.S. Energy and Employment Report* from the Energy Futures Initiative and the National Association of State Energy Officials. The report contains both national and state/regional data on energy jobs and related employment.

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



Appalachian Regional Commission (ARC) Partnership for Opportunity and Workforce and Economic Revitalization (POWER) grants

Appalachian Regional Commission, **Deadline, April 10, 2019**

The *Request for Proposals* for POWER 2019 is now available. ARC will begin accepting applications for funding on February 1, 2019, and are due April 10, 2019, at 5:00 p.m. ET. Approximately \$45 million will be awarded through a competitive granting process. In Fiscal Year 2019, ARC's POWER Initiative will continue focusing on investments that are regional, strategic, transformational, and maximize economic revitalization in Appalachia's coal-impacted communities. POWER investment priorities include:

- Building a competitive workforce
- Enhancing access to and use of broadband services
- Fostering entrepreneurial activities
- Developing industry clusters in communities
- Strengthening substance abuse response

Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science

National Science Foundation, **Deadline, April 2, 2019**

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 STEM discoveries and innovations by focusing on broadening participation in these fields at scale. The vision of NSF INCLUDES is to catalyze the STEM enterprise to collaboratively work for inclusive change, which will result in a STEM workforce that reflects the population of the Nation. The initiative is developing a National Network composed of NSF INCLUDES Design and Development Launch Pilots, NSF INCLUDES Alliances, an NSF INCLUDES Coordination Hub, NSF-funded broadening participation projects, other relevant NSF-funded projects, scholars engaged in broadening participation research, and other organizations that support the development of talent from all sectors of society to build an inclusive STEM workforce.

FY 2019 Regional Innovation Strategies Program

Department of Commerce, **Deadline, April 4, 2019**

The U.S. Economic Development Administration (EDA) is committed to fostering connected, innovation-centric economic sectors that support the conversion of research into products and services, businesses, and ultimately jobs through entrepreneurship. Funding is available for capacity-building programs that provide proof-of-concept and commercialization assistance to innovators and entrepreneurs and for operational support for organizations that provide essential early-stage funding to startups. Under the Regional Innovation Strategies Program, EDA is soliciting applications for two separate competitions:

- The 2019 i6 Challenge
- The 2019 Seed Fund Support Grant Competition

Applicants must provide a matching share from non-Federal sources of at least 50 percent of the total project cost (i.e., applicants must match each Federal dollar requested with at least one dollar of local match).

*STEM + Computing K–12 Education*National Science Foundation, **Deadline, May 1, 2019**

An innovative STEM and computing workforce and well-educated citizenry are crucial to the Nation's prosperity, security and competitiveness. Preparation for the future workforce must begin in the earliest grades from PreK–12, where students need to learn not only the science and mathematics central to these areas, but also how computational thinking is integral to STEM disciplines. Because of the powerful innovation and application of computing in STEM disciplines there is an urgent need for real-world, interdisciplinary, and computational preparation of students from PreK–12 that will provide a strong foundation for mid-level technical careers and for continuing education in higher education.

*EHR Core Research (ECR): Building Capacity in STEM Education Research*National Science Foundation, **Deadline, June 7, 2019**

ECR's Building Capacity for STEM Education Research (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.

*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.

*ONR, 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 skills 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 (CNC), Computer Aided Design (CAD), Programmable Logic Controllers (PLC), 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.

NETL News



NETL Modeling Effort Helps Solve Start-Up Challenges at Nuclear Waste Treatment Facility

In a cost-saving computer modeling effort, the National Energy Technology Laboratory (NETL) assisted in solving a critical technical issue at the U.S. Department of Energy (DOE) Office of Environmental Management (EM) Integrated Waste Treatment Unit (IWTU), preventing a long-term delay of start-up operations. IWTU is an Energy Department facility designed to treat 900,000 gallons of radioactive liquid waste by heating and essentially drying it into a solid granular material for long-term storage. The heat required in this process is created by a piece of equipment called a denitration mineralization reformer (DMR), in which coal, steam, air and oxygen interact. Because this mixture contains multiple phases of matter (i.e., solids and gases), an understanding of multiphase flow is critical for design and troubleshooting. "NETL is a globally recognized leader in multiphase flow," said NETL researcher Chris Guenther, who worked on the project. "So, when IWTU encountered an issue with their DMR, they called on the Lab's expertise."



NETL Water Management, Treatment and Analysis Noted as Part of International World Water Day

NETL technology research and innovation dedicated to more efficient energy-related water management approaches and recovery of heavy metals like lead and useful rare earth elements (REEs) from domestic water supplies are being highlighted by the Laboratory March 22 as part of its recognition of International World Water Day — a United Nations designated time for reflecting on the importance of water in daily life. World Water Day was established in 1993 to increase awareness and action dedicated to sustainably managing water resources.



Two NETL Technologies Earn Prestigious Carnegie Science Awards

Two of NETL's innovative technological achievements have been selected to receive prestigious awards from Pittsburgh's Carnegie Science Center. NETL's global oil and gas infrastructure (GOGI) database won in the Innovation in Energy category, while the Lab's permeability engineering through strain annealing technology won in the Advanced Manufacturing and Materials category. The honorees were announced at a VIP reception March 12, and the awards will be presented at a May 10 celebration.

Upcoming Workforce Conferences, Meetings, and Summits



2019 Annual Project Review Meeting for Crosscutting, Rare Earth Elements, Gasification and Transformative Power Generation

April 9-11, 2019, Omni William Penn Hotel, Pittsburgh, PA

The annual project review features discussions that are technical in nature about many of the technologies that are being invested in and developed at NETL and across the region and nation. This cross cutting annual project review will cover technological discoveries and breakthroughs in rare earth elements, gasification and transformative power generation. Information about registration can be [found here](#).

American Association of Community Colleges Annual Conference

April 13-16, 2019, Orlando World Center Marriott, Orlando, FL

The AACC annual meeting is among the largest and most dynamic gatherings of educational leaders, attracting over 2,000 community college presidents and senior administrators, as well as international educators, representatives of business/industry and federal agencies. The premier event for community college leaders, AACC's Annual Convention offers unprecedented professional development as well as the opportunity to network, share, and learn from professionals in the fields of education, business and industry, and the government sector. AACC is offering a new, curated exhibit hall experience for 2019 focused on promoting heavy engagement between exhibitors and attendees.

Rural College Access & Success Summit

April 28-30, 2019, Hyatt Regency, Lexington, KY

Each year, the Rural College Access and Success Summit brings together teachers, principals, superintendents, legislators, non-profit leaders and many others to share ideas and strategies for ensuring that rural youth have the opportunity to successfully transition from high school to college and to career. The Summit highlights best practices and the unique challenges of increasing opportunity in rural America.

are increasing in employment share. Interestingly, non-routine manual jobs - such as drivers and electrician - are increasing in employment share as well, and these jobs may not require college degrees. Where we're seeing a real decline is routine cognitive jobs, like phone operator or ticket agent.

The 2019 U.S. Energy and Employment Report

Energy Futures Initiative and the National Association of State Energy Officials

The U.S. Energy & Employment Report 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. Find out more at usenergyjobs.org.

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.

- Evolving Nature of Work- As routine cognitive jobs (“repetitive desk jobs”) are declining (4% lower from 2015 to 2018), workers without college degrees are increasingly shifting to non-routine manual jobs (3% higher). However, we shouldn't misinterpret this as workers with no college degrees are losing their jobs and are unemployed; they, too, have benefited from a tighter labor market and accelerating pay growth. Given that people with college degrees are increasing over time, it makes sense that abstract analytical jobs (7% higher) - including roles like business analyst or business consultant -

DOE STEM Rising



ASFE Steven Winberg Touts FE Efforts in STEM Community

At the Department of Energy (DOE), we have many programs to help strengthen a diverse pipeline of future STEM professionals. The Office of Fossil Energy also has a number of STEM activities, including the well-known Mickey Leland Energy Fellowship (MLEF) program. For more than 20 years, the MLEF Program has provided underrepresented students the opportunity to gain hands-on research experience in the Office of Fossil Energy—preparing the future generation of STEM professionals. Since its start in 1995, the program has mentored several hundred of the best and brightest students across the country interested in pursuing a STEM career.



CWC Opens Doors for New Grads Seeking Jobs in Wind

When Alana Benson decided to participate in the U.S. Department of Energy's 2018 *Collegiate Wind Competition* (CWC), she was only looking to complete her senior capstone project. She had no idea it would be the reason she got a job after graduating. CWC challenges interdisciplinary teams of undergraduate students from a variety of programs to offer unique solutions to complex industry issues and teaches them a fundamental understanding of wind energy along the way.



Idaho National Laboratory Supports State Efforts to Develop Cybersecurity Workforce

If words like Linux, Python, forensics and cryptography sound interesting, or maybe a bit intimidating, then you aren't alone. A new cybersecurity competition geared toward engaging Idaho high school girls has been designed to help spark interest in computer challenges.

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

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

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

Kate Nielsen
Regional Workforce Initiative
Coordinator
412-386-7509
Katherine.Nielsen@netl.doe.gov

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