

RWFI E-NOTE MONTHLY

REGIONAL WORKFORCE INITIATIVE • FEBRUARY 2019

Welcome Message

Greetings NETL RWFI stakeholders,

Thank you to those that were able to join us for our webinar this month; Working with NETL. Our next webinar, titled Energy 101, will be on **Thursday March 28, 2019**. During the *Energy 101 Webinar*, we will be describing the NETL research behind rare earth metals and advanced materials and manufacturing and what impact the potential breakthroughs in each technology can have on the economic development and workforce in the region. *Registration is limited, so secure your spot here today.*

In this month's funding highlights, we present a new request for proposals from the Department of Commerce for their *FY 2019 Regional Innovation Strategies Program* and the National Science Foundation's *Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science* program. And finally, in our regional meetings section there is information on how to register for this years Carnegie Mellon University Energy Week.

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

Future of Work at the Human-Technology Frontier: Core Research

National Science Foundation, **Deadline, March 6, 2019**

In 2016, the National Science Foundation (NSF) unveiled a set of "Big Ideas," 10 bold, long-term research and process ideas that identify areas for future investment at the frontiers of science and engineering (see https://www.nsf.gov/news/special_reports/big_ideas/index.jsp). The Big Ideas represent unique opportunities to position our Nation at the cutting edge of global science and engineering leadership by bringing together diverse disciplinary perspectives to support convergence research. As such, when responding to this solicitation, even though proposals must be submitted to the Directorate for Engineering, Office of Emerging Frontiers and Multidisciplinary Activities, once received the proposals will be managed by a cross-disciplinary team of NSF Program Directors. The Future of Work at the Human-Technology Frontier, one of the Big Ideas, is one mechanism by which NSF is responding to the challenges and opportunities for the future of jobs and work.

NSF Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM) Program

National Science Foundation, **Deadline, March 27, 2019**

A well-educated STEM workforce is a significant contributor to maintaining the competitiveness of the U.S. in the global economy. The NSF S-STEM program addresses the need for a high-quality STEM workforce in STEM disciplines supported by the program and for the increased success of low-income academically talented students with demonstrated financial need who are pursuing associate, baccalaureate, or graduate degrees in STEM. Recognizing that financial aid alone cannot increase retention and graduation in STEM, the program provides awards to Institutions of Higher Education to fund scholarships and to advance the adaptation, implementation, and study of effective evidence-based curricular and co-curricular activities that support recruitment, retention, transfer (if appropriate), student success, academic/career pathways, and graduation in STEM.

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.

NETL News



Director's Corner: How NETL is Sowing Seeds in STEM

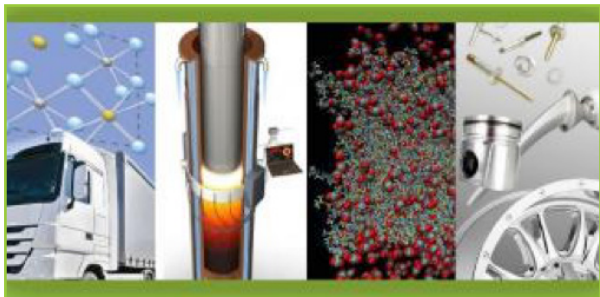
Nearly 12 years ago, a committee of American leaders commissioned by NSF put the final touches on a report called "Rising Above the Gathering Storm." It was an urgent call to action to preserve the Nation's strategic and economic security by creating high-quality jobs for Americans and responding to the Nation's need for clean, affordable, and reliable energy. Much of NETL's history, focus and vision has been all about answering that call — work that continues at a hectic pace in 2019. The report recommended a renewed focus on increasing opportunities to encourage young people to pursue education and jobs in STEM. The authors of the report called it "sowing the seeds through science and engineering research." At NETL, we have great stories to tell about our enduring commitment to "sowing the seeds." This month, visitors to our web site and social media platforms will be reading about some of the key STEM activities NETL pursues that are actively cultivating tomorrow's energy researchers.



NETL-Led Effort to Update Pittsburgh's Energy Infrastructure Receives National Award

A collaborative NETL-led effort to transform Pittsburgh's energy infrastructure and establish the Steel City as a "Clean Energy City of the Future" will receive the 2019 State and Local Economic Development Award from the Federal Laboratory Consortium (FLC) for Technology Transfer.

Previously a recipient of the same award from FLC's Mid-Atlantic Region, NETL's City of Pittsburgh Memorandum of Understanding team was selected for the national honor from applicants throughout FLC's network of more than 300 federal laboratories, agencies and research centers across the country. The award will be presented to team members at an April 24, 2019, ceremony in Orlando, Florida.



Entrepreneurs Vital to Success of NETL Technologies

Entrepreneurs often play a critical role in the evolution of NETL technologies, shepherding emerging innovations from the laboratory to the marketplace. Entrepreneurs invest in technology transfer initiatives that stimulate the economy, expedite access to the Lab's energy technology solutions and expand their reach for maximum benefit. As the U.S. celebrates *National Entrepreneurship Week*, NETL recognizes the many valued entrepreneurs who contribute to the Lab's success by accelerating innovation. Their sometimes-risky work advances society by sharing new ideas, tools and products with the potential to change the world. Recognizing the challenges of commercialization, the U.S. government empowered entrepreneurs with the 1980 enactment of the Bayh-Dole Act, which simplified technology transfer by allowing small businesses and others to license inventions created with federal funds. Today, NETL's *Technology Transfer Program* seeks entrepreneurial partners to bring Lab technologies to market by a variety of means — including patent licensing opportunities, cooperative research and development agreements, memorandums of understanding and more.



K–12 STEM Education and Outreach Team Inspires Next Generation of Scientists and Engineers

The coming decades will usher great opportunities for high-paying jobs in the STEM industries, but if too few candidates enter the STEM education pipeline, those jobs could go unfilled. That is why it so important to reach out to today's elementary and middle school students and get them excited about STEM careers. This outreach is especially relevant for underserved and underrepresented populations because the math and science proficiency of these students typically falls below the national average, making a STEM job sometimes seem out of reach. NETL's STEM Education Outreach Team strives to change that mindset by traveling to "at-risk" K–6 elementary and middle schools around the Lab's Morgantown, West Virginia and Pittsburgh, Pennsylvania sites to bring stimulating "hands-on, minds-on" activities that make the students feel like they are part of the STEM conversation.

Upcoming Workforce Conferences, Meetings, and Summits



NETL RWFI Energy 101 Webinar Series: Energy 101- Rare Earth Metals and Advanced Composites/Materials and Manufacturing

Thursday, March 28, 2019, 1:00 p.m.–2:00 p.m. ET; Webinar

For more than 100 years, NETL has advanced technology to provide clean, reliable, and affordable energy to the American people. NETL's mission is to discover, integrate, and mature technology solutions to enhance the Nation's energy foundation and protect the environment for future generations. Through forward-looking research and technology development, our team of talented and diverse experts provides technology solutions for today and options for tomorrow. The research conducted at NETL if successful has the capacity to create new innovative energy and technology-based economy's nationally and regionally. This webinar series will discuss some of the technologies and research goals that if successful could have a huge potential impact on the regional and national economy. You will learn about the technology thrusts that NETL research covers as well as a in depth non-technical description of some of the specific R&D and technologies that you may have heard about being done at NETL. In the first of this series, NETL subject matter experts and researchers will cover the research being conducted at NETL in rare earth metals and advanced materials and manufacturing, but also importantly, what impact on economic development and workforce research breakthroughs in these topics could have on the Appalachian region. *Registration is limited, so secure your spot here today.*

Tennessee Environmental Conference, Health, Industry, Environment, Economic Development

March 18–20, 2019; Meadowview Convention Center, Kingsport, TN

The Annual Tennessee Environmental Conference is the state's largest and most comprehensive educational opportunity and will be attended by an over 500 State, Local, and Federal Government Officials, Business and Industry Leaders, Attorneys, Consultants, Engineers, Developers, Land Owners, Architects, Agribusiness Leaders, Energy Experts, Water Planning Districts, Universities, Public Health Officials, Solid Waste and Recycling Experts, and many others. Over the two-day period, this Conference will host an elite group of environmental professionals seeking knowledge and sharing ideas around environmental concerns in Tennessee.

National Association of Development Organizations (NADO) & Development District Association of Appalachia (DDAA) Washington Conference

March 17–20, 2019; Crystal Gateway Marriott, Arlington, VA

In 2019, the Development District Association of Appalachia Annual Conference will be held in conjunction with the NADO Washington Conference. Whereas in previous years there were two separate registrations for two conferences, this year there is only a single registration process for a combined conference. The Development District Association of Appalachia (DDAA) is a membership organization of the 73 Local Development Districts (LDDs) serving the 420 counties of the Appalachia Region. The DDAA works to strengthen LDDs and their member governments and to provide leadership to support ARC federal-state-local partnership.

Morgantown Application Workshop for ARC's FY 2019 POWER Initiative: Investing in the Future of Appalachia's Coal-Impacted Communities

March 6, 2019; Morgantown Marriot at Waterfront Place, Morgantown, WV

ARC is hosting a series of free regional workshops on how to prepare competitive applications for funding available through the FY 2019 POWER Initiative to help Appalachia's coal-impacted communities strengthen and diversify their economies. The day-long agenda will review funding eligibility, process, and requirements as well as information on relevant research about coal-impacted communities, case studies of ARC's current POWER investments, and extensive networking opportunities. Community officials, economic development leaders, as well as representatives from nonprofits, educational institutions, local governments, and other interested organizations are encouraged to attend. Each workshop will run from 8:30 a.m.–3:30 p.m. ET and will include a light breakfast and lunch. Attendance is free; however, *pre-registration is required* as space is limited.

Carnegie Mellon University (CMU) Energy Week

March 25–28 2019; Carnegie Mellon University, Pittsburgh, PA

In its fourth year, CMU Energy Week 2019 convenes energy experts, CEOs and corporate executives, government officials, nonprofits, key influencers, students, and entrepreneurs for a facilitated dialogue on how to advance energy technologies and innovations around the world. Hosted by CMU's *Wilton E. Scott Institute for Energy Innovation*, they welcome thought leaders from all energy and cleantech sectors to engage and collaborate on research, trends, insights, and opportunities that are making a significant and disruptive impact.

Reports and Resources



February 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.

- **Mild slowdown of national hiring may have bottomed out:** Nationally, across all industries, gross hiring in the U.S. was 7.2% lower than in January 2018. That said, seasonally-adjusted national hiring was unchanged (0.0%) in January from December 2018, and LinkedIn is looking for signs that the mild slowdown of hiring experienced since the summer has bottomed out. The industries with the most notable hiring shifts in January were Software & IT Services (0.2% higher), Corporate Services (0.4% lower), and Public Safety (1.2% lower).

Opportunity Industries: Exploring the industries that concentrate good and promising jobs in metropolitan America

Brookings Institute

This report shows that the industrial structure and growth of metropolitan economies — in particular, whether they provide sufficient numbers of jobs in opportunity industries — matters greatly for workers' ability to get ahead economically. It examines the presence of occupations and industries in the Nation's 100 largest metropolitan areas that either currently or over time provide workers access to stable middle-class wages and benefits, particularly for the 38 million prime-age workers without a bachelor's degree.

DOE STEM Rising

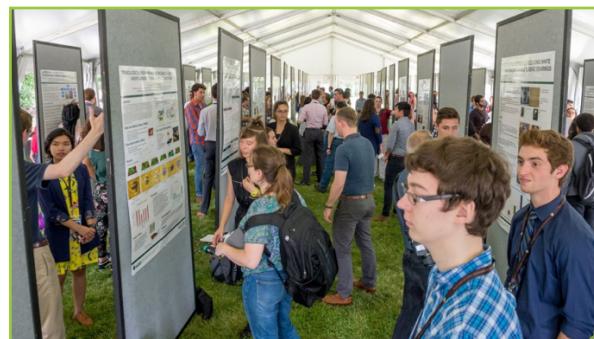


A Global Reach to Empower Women's Participation in the Energy Sector

The Department of Energy's Office of International Affairs is empowering women in STEM to make a difference. One example is an Energy Department-supported project that provides renewable energy leaders the skills and training they need to succeed. With the backing of the Office of International Affairs, the Asia-Pacific Economic Cooperation (APEC) funded a project called "Empowering Women as Managers of the Renewable Energy Sector". The project worked with women across the Asia-Pacific region in renewable energy careers, offering six months of online training and mentoring followed by a week-long workshop in Singapore last fall (October 29–November 2, 2018), all aimed at accelerating their professional development and career advancement in the energy sector.

Building a Foundation — New Scholarship Announced at Argonne

On October 24, 2018, the Chicago Chapter of the International Building Performance Simulation Association introduced a scholarship for undergraduate and graduate students named after Ralph Muehleisen, a building scientist and engineer at DOE's Argonne National Laboratory. Muehleisen is Argonne's Principal Building Scientist and the Building Energy Decision and Technology Research Group Leader. He currently leads the Urban Science and Engineering Program for Argonne's Energy Systems Division. His research focuses on increasing the efficiency and resiliency of built environments, and his projects involve urban science and engineering, reduced order and stochastic building energy modeling, understanding uncertainty and risk in building models and the integration of smart buildings and smart grids.



Equipping the next generation for a technological revolution

As the rate of technological development accelerates, scientific and technological fields are rapidly evolving, merging and growing. Changes in the methods and tools that scientists and engineers use — demonstrated by an increased focus on data science, machine learning and other emerging fields — make the need for capable STEM problem solvers urgent. How does one prepare the next generation of scientists and engineers for future success when the problems they will solve — and the technologies they will use to solve them — have yet to be defined and developed?

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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