

RWFI E-NOTE MONTHLY

REGIONAL WORKFORCE INITIATIVE • APRIL 2018

Welcome Message

Greetings NETL RWFI stakeholders.

In this April edition of the NETL RWFI E-Note, you will find several new funding announcements, including opportunities from the Department of Energy's Solar Energy Technologies Office FY18 Funding Opportunity (which includes a workforce topic) and several new funding announcements from the National Science Foundation (NSF) on building the STEM workforce and funding research centers for industry and academic institute collaboration. Also of note are the last call for Appalachian Regional Commission (ARC) Round 1 POWER Grant applications, and a funding announcement from the Department of Defense's Office of Naval Research for the creation of curriculum and programs supporting advanced manufacturing.

April was a busy month for NETL stakeholder engagement. In this edition, you will find recaps of several NETL regional engagements in support of STEM, economic and workforce development, and innovations in energy research.

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



ARC POWER Grants RFP Round 1

Appalachian Regional Commission (ARC), **Round 1 Deadline, May 1, 2018**

The ARC *released a request for proposals* (RFP) for the 2018 Partnerships for Opportunity and Workforce (POWER) Initiative. The first cycle of the POWER 2018 RFP has a deadline of May 1, 2018. ARC is making \$20 million of POWER funding available, with average individual grants ranging between \$400,000 and \$1.5 million. Up to 70% of POWER funding may be awarded during cycle one. Applicants for an ARC grant must demonstrate a matching share from non-ARC sources that is

identified and forthcoming to the project. Matching sources may be federal, non-federal, or a combination of sources. The maximum share of ARC assistance is determined by the ARC classification of the county or counties served by the proposed activity. Applicants may request up to 80% of the total project cost when the county served has been designated "economically distressed." The full RFP can be downloaded by [clicking on this link](#) or by visiting the ARC POWER website at: <https://www.arc.gov/funding/POWER.asp>

Higher Education Challenge Grants Program

U.S. Department of Agriculture (USDA), National Institute of Food and Agriculture, **Deadline, May 7, 2018**

Open to Land Grant Colleges and Universities. Projects supported by the Higher Education Challenge Grants Program will: (1) address a state, regional, national, or international educational need; (2) involve a creative or non-traditional approach toward addressing that need that can serve as a model to others; (3) encourage and facilitate better working relationships in the university science and education community, as well as between universities and the private sector, to enhance program quality and supplement available resources; and (4) result in benefits that will likely transcend the project duration and USDA support.

Homeless Veterans Reintegration Program 2018

U.S. Department of Labor, Veterans Employment and Training Service, **Deadline, May 7, 2018**

The U.S. Department of Labor, Veterans Employment and Training Service, announces the availability of approximately \$12 million in grant funds authorized under Title 38 of United States Code (U.S.C.), Sections 2021 and 2023. You may apply for a 12-month grant. 2018 Option Year Award recipients are not eligible to receive funding from this competition for an identical project proposal. The grant period of performance is July 1, 2018, to June 30, 2019. The maximum limit for an individual award is \$500,000. The purpose of this program is to provide services to assist in reintegrating homeless veterans into meaningful employment within the labor force and to stimulate the development of effective service delivery systems that will address the complex problems facing homeless veterans.

Tribal Colleges Education Equity Grants (TCEG) Program

U.S. Department of Agriculture (USDA), National Institute of Food and Agriculture, **Deadline, May 18, 2018**

The purpose of the TCEG Program is to provide funding to enhance educational opportunities for Native Americans in the food and agricultural sciences. The TCEG program is intended to strengthen institutional capacity to deliver relevant formal education opportunities. The TCEG is intended to be a component of the applicant 1994 institution's land grant roadmap or strategic planning process. To the extent practicable, priorities should reflect the National Institute of Food and Agriculture's following national critical needs areas: 1. Development of sustainable energy; 2. Increased global food security; 3. Adaptation/mitigation of agriculture and natural resources to global climate change; 4. Reduction of childhood and adolescent obesity; and 5. Improved food safety.

Fiscal Year (FY) 2018 Funding Opportunity Announcement (FOA) for the Office of Naval Research, on behalf of the Office of the Secretary of Defense, for the Manufacturing Engineering Education Program

U.S. Department of Defense, Office of Naval Research, **Deadline, May 16, 2018**

The National Defense Authorization Act for FY 2017 established the "Manufacturing Engineering Education Program" (10 U.S.C. § 2196), which authorizes the Department of Defense to support industry-relevant, manufacturing-focused, engineering training at United States institutions of higher education, industry, nonprofit institutions, and consortia of such institutions or industry. The purpose of this program is to establish new or to enhance existing programs (or collections of programs) to better position the current and next-generation manufacturing workforce to produce military systems and components that assure technological superiority for the Department of Defense. Interested parties should focus programs on manufacturing education to support one or more distinct manufacturing technologies; e.g. manufacturing of lightweight structures, systems and materials; robotics for manufacturing; manufacturing to exploit nanotechnology; manufacturing of components and systems for power generation, storage, or distribution; manufacturing of multi-functional electronics and/or optical devices; or other manufacturing technologies of regional or industrial sector of interest. 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.

Capacity Building Grants for Non-Land Grant Colleges of Agriculture Program (NLGCA)

U.S. Department of Agriculture, National Institute of Food and Agriculture, **Deadline, May 25, 2018**

Applications may only be submitted by a NLGCAs certified as such by the National Institute of Food and Agriculture. NLGCA Institutions may use the funds: (a) to successfully compete for funds from Federal grants and other sources to carry out educational, research, and outreach activities that address priority concerns of national, regional, State, and local interest; (b) to disseminate information relating to priority concerns to interested members of the agriculture, renewable resources, and other relevant communities, the public, and any other interested entity; (c) to encourage members of the agriculture, renewable resources, and other relevant communities to participate in priority education, research, and outreach activities by providing matching funding to leverage grant funds; and (d) through: (1) the purchase or other acquisition of equipment and other infrastructure (not including alteration, repair, renovation, or construction of buildings); (2) the professional growth and development of the faculty of the NLGCA Institution; and (3) the development of graduate assistantships.

Industry-University Cooperative Research Centers Program (IUCRC)

National Science Foundation, **Deadline, June 20, 2018**

Open to two and four-year colleges including community colleges, the IUCRC program develops long-term partnerships among industry, academia, and government. The Centers are catalyzed by an investment from the 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.

Solar Energy Technologies Office (SETO) FOA FY 2018

U.S. Department of Energy, Golden Field Office, **Deadline, June 26, 2018**

The FOA will support early-stage research that spans the SETO portfolio, seeking to advance both solar photovoltaic (PV) and concentrating solar thermal power (CSP) technologies and to facilitate the swift integration of those technologies into the nation's electricity grid. It is also designed to support efforts that prepare the workforce for the solar industry's future needs. The FOA is organized into the following high-level Topic Areas: Topic 1: Advanced Solar Systems Integration Technologies describes SETO research priorities in the seamless integration of high penetrations of solar energy onto the nation's electricity grid. Topic 2: Concentrating Solar Thermal Power Research and Development describes SETO research priorities that support solar technologies that focus sunlight to generate and store high-temperature heat for electricity generation and other end uses. Topic 3: Photovoltaic Research and Development describes

SETO research priorities that support the further development of photovoltaic technologies that improve system reliability, annual energy yield, demonstrate performance of novel PV devices and develop new PV materials. Topic 4: Improving and Expanding the Solar Industry through Workforce Initiatives describes SETO research priorities that support solar workforce development. This topic area addresses two primary aspects of the U.S. workforce relevant to the expansion of solar energy: (1) increased participation of talent pools, such as veterans, in the solar industry and (2) enhancing the digital skills of U.S. electric grid workers through coordinated industry effort.

STEM + Computing (STEM+C) K-12 Education

National Science Foundation, **Deadline, July 2, 2018**

An innovative STEM+C 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 the early grades through high school (preK-12) that will provide a strong foundation for mid-level technical careers and for continuing education in higher education. This is particularly important in the key science areas described in the *Big Ideas for Future NSF Investment*. The STEM+C program supports research and development proposals related to new approaches to pre-K-12 STEM teaching and learning related to Harnessing the Data Revolution, Convergence Research and the Future of Work at the Human-Technology Frontier.

Accelerating Discovery: Educating the Future STEM Workforce

National Science Foundation, **Deadline, July 2, 2018**

A well-prepared, innovative STEM workforce is crucial to the Nation’s prosperity and security. Future generations of STEM professionals are a key sector of this workforce, especially in the critical scientific areas described in the *Big Ideas for Future NSF Investments*. NSF recognizes the need to support development of and research on effective educational approaches that can position the future STEM workforce to make bold advances in these Big Ideas. In response to this need, the NSF’s Education and Human Resources Directorate seeks to invest in projects that can educate the STEM workforce to advance discovery in the six research Big Ideas: Harnessing the Data Revolution, The Future of Work, Navigating the New Arctic, Multi-messenger Astrophysics, The Quantum Leap, and Understanding the Rules of Life. In addition to developing and implementing novel educational and/or training programs, these projects should simultaneously generate new knowledge about effective STEM education, by studying such programs and exploring related issues. Specifically, NSF accepts proposals to support education research and development projects focused on re- or up-skilling the existing workforce; developing the skilled technical workforce; and/or preparing those at the undergraduate, graduate, or postdoctoral fellow/early career levels. We encourage projects

to partner with industry, public, and private sectors to define the needs of tomorrow’s workforce and develop educational and learning strategies to meet those needs. Proposals should address near-, mid-, and long-term challenges and opportunities facing the development of STEM professionals or anticipate new structures and functions of the STEM learning and teaching enterprise.

NETL Meetings and Regional Events



NETL Hosts Area Teachers at Science of Light Workshop — Recap, April 6, 2018

One of the ways that NETL amplifies its STEM educational outreach is by leveraging strategic partnerships with various organizations. For example, the Spectroscopy Society of Pittsburgh and the Society for Analytical Chemists of Pittsburgh present the Light, Color, and Spectroscopy for Kids teacher workshop each year at the Pittsburgh site. The 2018 workshop took place on April 6 and featured fun activities such as learning how to project a color spectrum that can be used to teach things like color addition and subtraction.



NETL at Carnegie Mellon University Energy Week — Recap, April 6, 2018

NETL employees touted the Lab’s work to develop innovative energy technology solutions during Carnegie Mellon University’s (CMU) Energy Week, held April 3-6 in Pittsburgh. In conjunction with this year’s theme, “Investing in our Energy Future,” CMU invited leaders from the industry, government, academia, and nonprofit sectors to address energy research, trends, and opportunities. Randall Gentry, Ph.D., NETL’s Deputy Director

of Science and Technology Strategic Plans and Programs, delivered a keynote address on Thursday afternoon. NETL also exhibited during the career fair, and employees shared the Lab's involvement with the Oak Ridge Institute for Science and Education and Mickey Leland Energy Fellowship programs with interested participants. Other events included an investor forum, Department of Energy-sponsored Allegheny Region Cleantech University Prize Collegiate Competition and lectures on important topics related to NETL's efforts to stimulate a growing economy and improve the health, safety, and security of all Americans.



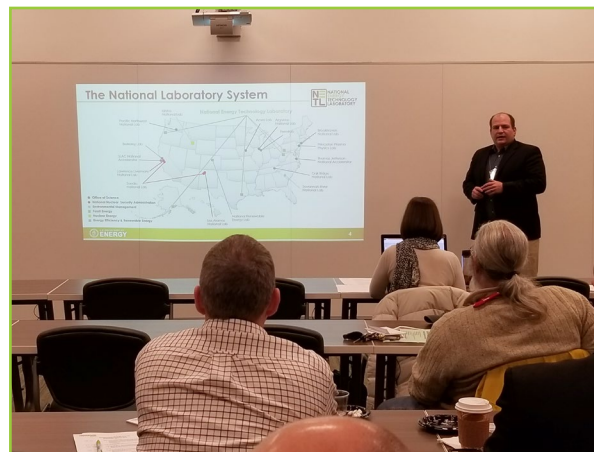
NETL Small Business Meeting — Recap, April 13, 2018

NETL's Pittsburgh site hosted the U.S. Small Business Administration's (SBA) annual meeting for 8(a) Small Business Development Program participants. The 8(a) program provides valuable assistance to help small, disadvantaged businesses compete in the marketplace. NETL is proud to participate by hosting the annual meeting, co-sponsored by the SBA's Pittsburgh and West Virginia district offices. In addition, NETL supports the many small businesses that contribute to the Lab's work to develop innovative technology solutions for America's energy challenges.



NETL Hosts Area Teachers at Computer Workshop — Recap, April 13, 2018

The Society of Analytical Chemists of Pittsburgh presented the annual Computer Software for Chemistry and Physics Teachers workshop at the NETL Pittsburgh site. Several pieces of computer software relevant to chemistry and physics education were demonstrated and distributed to area STEM educators, helping to bolster their classrooms and laboratories.



NETL staff presents at Westmoreland County Community College's Sustainable Energy Forum — Recap, April 18, 2018

Westmoreland County Community College's Sustainable Energy Forum featured speakers from Environmental Entrepreneurs, Keystone Energy Efficiency Alliance, Penn State Extension Service, employers, and other organizations discussing national and regional trends, what this growth means for our region, and roles community colleges can play to prepare the workforce of today for careers of tomorrow. Staff from NETL presented at the Forum, providing background on NETL, the analysis capacity of the lab, and key analysis about the region's energy workforce.

NETL News



NETL Co-Hosts Student Mentoring Program to Encourage Stem Careers

NETL co-hosted a special event April 18 to help mitigate participation disparities in STEM fields by connecting enthusiastic professionals with interested students and their educators. NETL, the DOE, and Oregon State University (OSU) College of Science hosted the Mid-Willamette STEM Mentoring Café at OSU's Memorial Union in Corvallis, Oregon. Middle and high school students broke into small groups for speed mentoring sessions, during which they had the opportunity to chat with STEM role models, see samples of their work, and ask questions. Educators received take-home materials to continue STEM engagement with their students. Participating professionals were encouraged to offer ongoing mentoring to students and educators in their community.



NETL Supported Coalition Makes Strides in Addressing Fossil Energy Research Challenges

NETL is aggressively addressing fundamental fossil energy research challenges in partnership with 16 universities across the country, devoting about \$4 million to twelve projects within two years. Another \$4 million is slated to be awarded to seven additional projects by the end of June.



Techno-Economic Analysis Guides Energy Research Towards Success

Supporting domestic energy and technologies that produce efficient, affordable power with responsible stewardship of the environment are top priorities for NETL. Our researchers are examining new innovations that can provide clean, efficient energy from coal, natural gas, and oil. But the path from discovery to commercialization can take decades. So how do decision makers choose which breakthrough technologies have the potential to thrive in the commercial market and bring lasting benefit? One specialty of NETL's Research & Innovation Center – systems engineering and analysis – seeks to help answer that question. The Laboratory's Energy Process Analysis team conducts techno-economic analyses to evaluate a technology's economic feasibility.

Workforce Conferences, Meetings, and Summits



What does the future of American education look like?

Newseum, Washington, DC, **May 1, 2018**

A majority-minority, majority poor student population. A demanding job market. Increasing automation. A polarized society. There are big demographic, economic, technological and social challenges confronting American schools—and a lot of debate about how to face them. With this backdrop, the fourth annual Education Summit will examine the state, local and federal policy ideas that could influence school success and safety; the mechanics of teaching and learning in classrooms; and the state of equity and access in education today.

What are the credentials for the jobs of the future?

Mason Fine Arts, Atlanta, GA, **May 9, 2018**

Perceptions and realities of the American education system are evolving. A traditional four-year degree is no longer a viable goal for many students, so vocational training and online programs are increasingly popular alternatives. New avenues for learning pave the way for nontraditional students—but new hurdles become evident as well. The Atlantic will convene education experts, policy makers, business leaders and activists to examine whose responsibility it is to educate the next American generation and what the most innovative teaching and training strategies are.

The State of STEM: Achieving a Sustainable STEM Workforce

United States Institute of Peace, Washington, DC, **May 18, 2018**

Centered around the most pervasive gaps in STEM talent, the day's agenda will provide members of STEM Connector with opportunities to see themselves within the larger STEM ecosystem and gain new clarity on solutions that are making actual impact in STEM talent development across the nation and world. The day will feature a variety of formats including presentations, panels, fireside chats, and interactive work sessions.

Reports and Resources



*Have we made progress on achievement gaps?
Looking at evidence from the new National Assessment
of Education Progress (NAEP)*

The Brookings Institute

Often referred to as “The Nation’s Report Card,” these results provide a bi-annual barometer on how states and the country as a whole are performing in the classroom. This year’s results are particularly noteworthy because they are from the final NAEP administered before implementation of the new Every Student Succeeds Act, which replaced No Child Left Behind.

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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