

RWFI E-NOTE MONTHLY

REGIONAL WORKFORCE INITIATIVE • AUGUST 2019

Welcome Message

Greetings NETL RWFI stakeholders,

In this month's E-note funding spotlight, you will notice the opening of the annual National Science Foundation (NSF) funding opportunity for the *Advanced Technological Education Program*, a program that focuses on community colleges, as well as the expiring *Appalachian Regional Commission (ARC) STEM High School Entrepreneurship* funding opportunity.

In addition, in this month's e-note is a special invitation to our NETL RWFI stakeholders to attend a free webinar *Report Briefing on Ethane Storage and Distribution in Appalachia* on Thursday, September 12, from 11:00 a.m. to 12:00 p.m. This webinar will provide basic information on ethane storage and distribution as well as the potential effect this may have on the region. More information about the webinar and how to register can be found by visiting the NETL RWFI events page at <https://www.netl.doe.gov/business/rwfi/events>

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



Advanced Technological Education Program

National Science Foundation, **Deadline, October 3, 2019**

With an emphasis on two-year Institutions of Higher Education (IHEs), the Advanced Technological Education (ATE) program focuses on the education of technicians for the high-technology fields that drive our nation's economy. The program involves partnerships between academic institutions (grades 7–12, IHEs) and industry to promote improvement in the education of science and engineering technicians at the undergraduate and secondary institution school levels. The ATE program supports curriculum development; professional development of college faculty and secondary school teachers; career pathways; and other activities. The program invites research proposals that advance the knowledge base related to technician education. It is

expected that projects will be faculty driven and that courses and programs credit bearing, although materials developed may also be used for incumbent worker education. The ATE program encourages partnerships with other entities that may impact technician education. For example, with

- The National Institute of Standards and Technology (NIST) Manufacturing Extension Partnerships (MEPs) (<http://www.nist.gov/mep/index.cfm>) as applicable to support technician education programs and the industries they serve;
- Manufacturing USA Institutes (<https://manufacturing.gov/>) and Investing in Manufacturing Communities of Practice (IMCPs) (<https://www.eda.gov/imcp/>) addressing workforce development issues (also see DCL *NSF 16-007*); and
- NSF Industry University Cooperative Research Centers Program (IUCRC) awardees (<http://www.nsf.gov/eng/iip/iucrc>).

Entrepreneurship in Appalachia

Appalachian Regional Commission, **Deadline September 6, 2019**

ARC is currently seeking proposals from eligible organizations to develop and produce a high school entrepreneurship summer program. The program, a new ARC initiative, will provide comprehensive entrepreneurial training and supportive services to selected high school students who will be seniors during the 2020–2021 academic year. Read the *Request for Proposals*.

Apprenticeships: Closing the Skills Gap

Department of Labor, **Deadline, September 24, 2019**

This Announcement solicits applications for the Apprenticeships: Closing the Skills Gap grant program. The purpose of this program is to promote apprenticeships as a significant workforce solution in filling current middle- and high-skilled job vacancies and closing the skills gap between employer workforce needs and the skills of the current workforce. In June 2017, the President issued Executive Order 13801 on Expanding Apprenticeship in America, which lays out an expansive vision for apprenticeship that would increase the number of apprentices in the nation to an unprecedented level across all industries. The overarching goals of this grant program are threefold: (1) to accelerate the expansion of apprenticeships to new industry sectors and occupations, such as cybersecurity and those involving artificial intelligence; (2) to promote the large-scale expansion of apprenticeships across the nation to a range of employers, including small- and medium-sized employers; and (3) to increase apprenticeship opportunities for all Americans.

FUNDING SPOTLIGHT

FY19 Office of Naval Research (ONR) Navy and Marine Corps STEM Education and Workforce Program

Office of Naval Research, **Deadline, September 27, 2019**

All responsible sources from academia and non-profit organizations may submit white papers under this FOA. Federally Funded Research & Development Centers (FFRDCs), including DOE National Laboratories, are not eligible to receive awards under this FOA. However, teaming arrangements between FFRDCs and eligible principal applicants are allowed so long as they are permitted under the sponsoring agreement between the Government and the specific FFRDC. Navy laboratories, military universities, and warfare centers as well as other Department of Defense and civilian agency laboratories are also not eligible to receive awards under this FOA and must not submit either white papers or applications in response to this FOA. If any such organization is interested in the program described herein, the organization may contact ONR STEM Program Office, onr_stem@navy.mil, to discuss potential projects. The subject line of the email shall read "N00014-19-S-F003 Potential Project Inquiry." As with FFRDCs, these types of Federal organizations may team with eligible applicants that are submitting white papers under this FOA. University Affiliated Research Centers (UARC) are eligible to submit white papers under this FOA unless precluded from doing so by their Department of Defense UARC contract. Cost sharing is not expected and will not be used as a factor during the merit review of any application hereunder. However, the Government may consider voluntary cost sharing if proposed.

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

National Science Foundation, **Deadline, September 30, 2019**

The STEM fields 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 U.S. economy. The National Science Foundation (NSF) plays a leadership role in development and implementation of efforts to enhance and improve STEM education in the United States. Through the NSF Improving Undergraduate STEM Education (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 program is a core NSF undergraduate STEM education program that seeks to improve the effectiveness of undergraduate STEM education for both majors and non-majors. 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 populace. In pursuit of this goal, IUSE: EHR supports projects that have the potential to improve student learning in STEM through development of new curricular materials and methods of instruction, and development of new assessment tools to measure student learning.

FY20 and FY21 Small Business Innovation Research (SBIR) Phase I Request For Applications

U.S. Department of Agriculture, **Deadline, October 23, 2019**

Funds may be awarded up to \$100,000 for a Phase I project. Proposed Phase I projects should prove the scientific or technical feasibility of the approach or concept. Projects dealing with agriculturally related manufacturing and alternative and renewable energy technologies are encouraged across all SBIR topic areas. The U.S. Department of Agriculture (USDA) SBIR's flexible research areas ensure innovative projects consistent with USDA's vision of a healthy and productive nation in harmony with the land, air, and water. USDA SBIR Program has awarded over 2000 research and development projects since 1983, allowing hundreds of small businesses to explore their technological potential, and providing an incentive to profit from the commercialization of innovative ideas.

NETL News



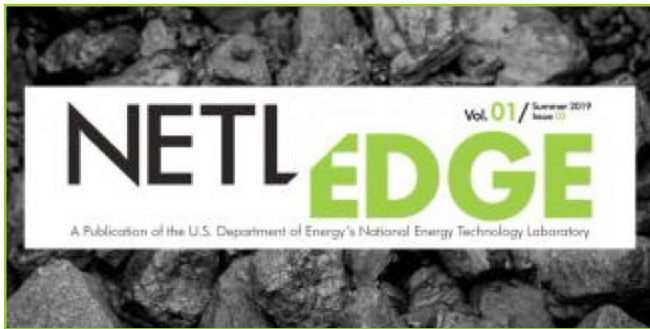
Adaptation of Key NETL Carbon Capture Technology Holds Promise for Cleaning Waters and Recovering Rare Earth Elements

NETL research has resulted in a technology that offers a practical, affordable and green approach to removing the threat of lead and other heavy metals from streams that ultimately contaminate the drinking water of American homes — a threat that jeopardizes the health of millions of children — and can also help recover valuable rare earth elements (REEs) from water supplies. The heart of the technology is an NETL-developed material known as basic immobilized amine/silica sorbent (BIAS). It was initially developed to separate gases as part of carbon capture research and has received numerous awards and recognitions for its effectiveness. NETL's McMahan Gray led a Laboratory team consisting of Brian Kail, Walter Wilfong, Qiuming Wang, Fan Shi, Tom Tarka, and Tuo Ji that had ideas for wider applications for BIAS. They adapted the core BIAS technology to create a product that resists water, is regenerable, and can target heavy metals and even REEs from water supplies.



NETL K-12 STEM Education & Outreach Team Leads Summer Learning Activities

Throughout the school year, NETL's K-12 STEM Education & Outreach team encourages positive attitudes surrounding STEM by bringing engaging hands-on, minds-on activities to children. During the summer when classrooms are empty, the team continues to provide STEM instruction at day camps, summer programs and other educational events located near the Lab's research sites in Pittsburgh; Morgantown, West Virginia; and Albany, Oregon. Team members, along with the Lab's STEM Ambassadors, led four active learning experiences throughout July that served to enhance children's critical thinking skills and foster an early interest in STEM topics.



Summer Edition of NETL Edge Is Now Available

NETL presents the latest edition of our publication that showcases the Lab's research on emerging energy technologies. NETL Edge shares the latest developments our talented scientists and engineers are advancing to use our nation's energy resources efficiently and safely to bolster American's energy independence. Check out the summer edition to learn more about our research to convert coal into valuable products, advance mixed matrix membranes for carbon capture, improve enhanced oil recovery processes and more.

Upcoming Workforce Conferences, Meetings, and Summits



NETL REGIONAL WORKFORCE INITIATIVE WEBINAR

Report Briefing- Ethane Storage and Distribution Hub in the United States

Thursday, September 12, 11:00 a.m.–12 p.m.

You've heard a lot about ethane storage and the potential for a new distribution and storage hub, but what is it and what could it potentially mean for the US and for the Appalachian region? This webinar will present key findings from a 2018 report on ethane storage and distribution in the US which also included an analysis of the Appalachian region. Register today as: <https://www.netl.doe.gov/business/rwfi/events>

ARC Summit Hosted by the State of North Carolina

Asheville, North Carolina, September 4–6, 2019

The 2019 Appalachia Strong summit will include strategic workshops, site visits, panel discussions, and other ideas to continue Appalachia's prosperity, progress, and growth.

2019 National Historically Black Colleges and Universities (HBCU) Week Conference

Renaissance Washington, D.C., Downtown, Washington, District of Columbia, September 9–10, 2019

The annual National HBCU Week Conference is planned under the direction of the White House Initiative on HBCUs and with input from the Chairman of the President's Board of Advisors on HBCUs and other supporters. It provides a forum to exchange information and share innovations among and between institutions. This year's event will bolster HBCUs as they connect to federal and other opportunities that enhance the shared prosperity — as well as the overall competitiveness — of the United States of America.

Entre Ed Forum

Hyatt Regency, Lexington, Kentucky, September 27–29, 2019

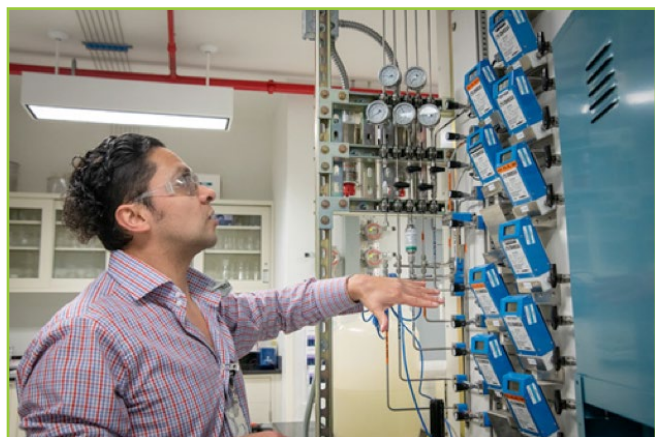
Every student benefits from entrepreneurship education. The EntreEd Forum provides attendees with a unique opportunity to learn about entrepreneurship education via hands-on workshops, engaging activities, and an interactive agenda. The conference is designed to inspire attendees to create the next generation of young entrepreneurs. Join a network of educators (from inexperienced to experienced and teacher to administrator) dedicated to advancing entrepreneurship in their communities. You'll walk away with the resources, knowledge, and guidance to easily integrate entrepreneurship into any subject area, grade level, classroom, or school.

*Community Colleges of Appalachia 2019 Conference —
Community Colleges: Creating Success in Appalachia*

Hazard Community and Technical College, Hazard, Kentucky, October 30–November 1, 2019

Hazard Community and Technical College is pleased to host the Community Colleges of Appalachia Fall 2019 Conference. The conference will begin with breakfast on Thursday morning, October 31 and continue through Friday, November 1, until noon. The fall conference will focus on creating success in Appalachia.

Reports and Resources



LinkedIn July Workforce Report

The LinkedIn Workforce Report is a monthly report on employment trends in the U.S. workforce. It's 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 20 of the largest U.S. metro areas.

Key July findings:

- Nationally, across all industries, gross hiring in the U.S. was 0.2% higher than in June 2018.
- Workers leaving the largest U.S. cities are increasingly relocating to smaller cities with large concentrations of Boomers and retirees.
- The majority of workers leaving these primary cities for the smaller, generationally older cities aren't actually close to retirement.
- Health Care is the most popular industry attracting workers from primary cities, with the Real Estate and Retail industries close behind.
- Workers moving into generationally older cities are filling critical gaps in soft skills.

DOE STEM Rising

Marine Energy Collegiate Competition Empowers Students to Energize a Growing Blue Economy

The National Renewable Energy Laboratory, working on behalf of DOE's Water Power Technologies Office, has just announced the newest undergraduate and graduate-level student competition, the *Marine Energy Collegiate Competition: Powering the Blue Economy*. This competition will focus on near-term opportunities for next-generation marine energy technologies that hold promise for existing blue economy markets, an emerging research area with the potential to bring together diverse scientific and technical disciplines to develop new capabilities and solve existing challenges.

From Designing to Reprogramming: Intern Steven Snell Spends His Summer at Alternating Gradient Synchrotron (AGS) and Relativistic Heavy Ion Collider (RHIC)

Steven Snell only started as an intern at DOE's Brookhaven National Laboratory in June, but he quickly earned the reputation as a "cool" guy by helping review, reprogram, and rewire the Radio Frequency Power Amplifier (RFPA) cooling system for the AGS. The AGS injects heavy ion/proton beams into the Lab's RHIC which collides them together so scientists can explore the building blocks of matter and how the universe works. The upgraded RFPA cooling system will increase the system's efficiency helping to reduce the power cost for RHIC operations.

EcoCAR study reveals what Automated and Electric Vehicle educated graduates want in an employer

The transportation industry's promise of a future that moves people and products in a safer, more efficient and connected way, has spiked a talent war for a new kind of workforce — one with the skill sets necessary to develop autonomous and electric vehicle technologies. What is the next generation of engineers looking for in their future employer and careers? EcoCAR, the premier collegiate engineering competition, surveyed its students to gain an inside look at what this highly sought-after talent desires with career placement.

Your A.I. Career: April's Story

April Morton may owe her career in A.I. to country music. She's a California girl who loved math throughout her childhood and had fun learning new mathematical concepts. When it came time for April to pick a college major, she chose math right off the bat, but didn't really know what kind of a career she could have with a math major beyond teaching, so she figured she'd teach after graduation.

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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