Welcome Message

Greetings NETL RWFI stakeholders,

In this month's E-note you will find new funding opportunities from the National Institutes of Food and Agriculture as well as information about a *new leadership program from the Appalachian Regional Commission*. You can also sign up for an *informational webinar* on the new ARC program, where you can learn how to apply for the leadership program.

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

Hispanic-Serving Institutions (HSI) — Education Grants Program

National Institute of Food and Agriculture,
Deadline, May 16, 2019

The National Institute of Food and Agriculture's (NIFA) HSI Education Grants Program is competitive grants program is intended to promote and strengthen the ability of HSI to carry out higher education programs in the food and agricultural sciences. Programs aim to attract outstanding students and produce graduates capable of enhancing the Nation's food and agricultural scientific and professional work force.

Women and Minorities in STEM Fields

National Institute of Food and Agriculture,
Deadline, May 21, 2019

The purpose of the Women and Minorities in STEM Fields (WAMS) Program is to support research, education/teaching, and extension projects that increase participation by women and underrepresented minorities from rural areas in STEM. NIFA intends this program to address educational needs within broadly defined areas of food, agriculture, natural resources, and

human (FANH) sciences. Applications recommended for funding must highlight and emphasize the development of a competent and qualified workforce in the FANH sciences. WAMS-funded projects improve the economic health and viability of rural communities by developing research and extension initiatives that focus on new and emerging employment opportunities in STEM occupations. Projects that contribute to the economic viability of rural communities are also encouraged.

Higher Education Multicultural Scholars Program

National Institute of Food and Agriculture,
Deadline, May 24, 2019

The purpose of this competitive undergraduate scholarship grant program is to increase the multicultural diversity of the food and agricultural scientific and professional workforce and advance the educational achievement of all Americans by providing competitive grants to colleges and universities.

Directorate for Education and Human Resources 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.

Office of Naval Research (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, 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

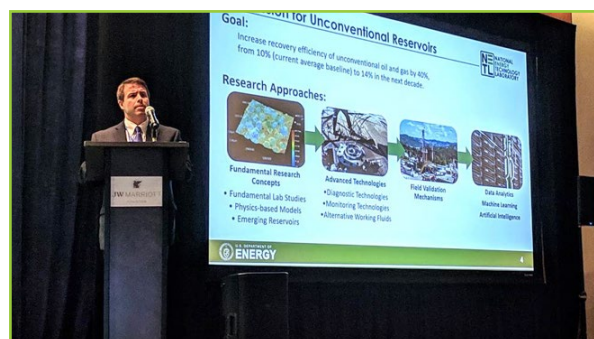National Science Foundation, **Deadline, July 10, 2019**

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. The program supports a variety of methods including experiments, field studies, surveys, secondary-data analyses, and modeling.

NETL News

NETL Announces Winners of Annual Earth Day Poster Contest

At NETL, maintaining responsible stewardship of the environment is crucial to the Lab's mission of finding innovative solutions to America's energy problems. Earth Day, celebrated since 1970, aligns closely with NETL's vision while emphasizing the importance of recycling, conserving energy, and improving air quality. Every year, NETL hosts an annual poster contest encouraging elementary school students at schools near NETL's sites in Albany, Oregon; Morgantown, West Virginia; and Pittsburgh, Pennsylvania, to showcase their favorite ways to protect the environment. This year, students were asked to design their posters around the theme "Protect our Earth's Plants, Care for its Creatures" in recognition of this planet-centric day.

NETL Experts Share Insight on Machine Learning for Oil and Gas

NETL experts on geo-data science and oil and natural gas technology shared their technical insight with more than 250 peers from around the world at this week's 4th annual Machine Learning in Oil & Gas conference. NETL Oil & Gas Technology Manager Jared Ciferno and Research Geo-Data Scientist Kelly Rose were among the featured speakers at the event, organized by the Energy Conference Network and held April 17–18, 2019 in Houston, Texas. Machine learning refers to a computer system or program's ability to learn from data using algorithms, statistical models and pattern recognition. Many modern technologies — such as self-driving cars, web search tools and social media sites — employ machine learning to improve performance.

University Collaboration Advances Cleaner Energy Technology

NETL's world-renowned computer modeling capabilities are front and center in a pivotal collaboration with West Virginia University (WVU). Computational modeling is a critical tool in technology development, and the forward-looking efforts by the NETL-WVU research team are improving the accuracy of fossil-fuel energy systems models — work that will ultimately help provide the Nation with cost-effective, sustainable, and efficient clean energy. The NETL-led team is investigating gasification, a promising technology that can convert fossil fuels like coal into a highly useful mixture of hydrogen and carbon monoxide called synthesis gas (or syngas). Because it can be used directly as fuel and as a precursor to an array of chemicals and products, syngas could become a major game changer in the fossil fuel industry. The NETL-WVU team is seeking to understand how to optimize gasification and syngas production.

Upcoming Workforce Conferences, Meetings, and Summits

Webinar — Moving Past Triage — Real Solutions to the Opioid Epidemic in Rural America

May 2, 2019, 1:00–2:00 p.m. Eastern

On average, 130 Americans die every day from an opioid overdose, and rural America is harder hit by the epidemic, according to the Centers for Disease Control and Prevention. So, what's being done right now to reverse this devastating trend? We talk to three leaders with different vantage points who share the same goal — stop this epidemic. Guests on this free webinar are Anne Hazlett, senior adviser for rural affairs White House Office of National Drug Control Policy; Lisa Roberts, a public health nurse who watched the epidemic unfold in Ohio (ground zero in the epidemic); and Tina Stride, who channeled grief and loss into action by starting a nonprofit in West Virginia that gets people into treatment.

Webinar — Appalachian Leadership Institute Informational

May 2, 2019, 1:00–2:00 p.m. Eastern

The Appalachian Leadership Institute is a free comprehensive leadership and economic development training opportunity for people who live and/or work in Appalachia and are passionate about helping their communities thrive. Appalachian Leadership Institute Fellows will participate in an extensive training curriculum developed by the Appalachian Regional Commission (ARC) in partnership with the University of Tennessee, Knoxville; The Howard H. Baker Jr. Center for Public Policy; Tuskegee University; and Collective Impact.

Alleghenies Ahead Creating an Entrepreneurial Spirit in the Workplace

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

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.

Reports and Resources

April 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.

- Industries — Midwest flooding dealt another blow to the already struggling agriculture industry. In the midst of trade wars with China and looming border shutdown, the agriculture industry saw hiring drop 12.3% last month — and floods in the Midwest corresponded with another 4.4% dip in hiring this month. With so many pockets of the Midwest impacted by flooding and one of its top industries hit the hardest, the region's economic recovery may be slower than the usual 2–3 month rebound following a natural disaster.

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 (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.

ARC Announces Appalachian Leadership Institute

Appalachian Regional Commission

ARC is now accepting applications for the inaugural class of the *Appalachian Leadership Institute*, a new leadership and economic development training opportunity for the Region's community leaders. The program includes an extensive nine-month curriculum focusing on skill-building, seminars, best practice reviews, field visits, mentoring, and networking. Eligible applicants include representatives from Appalachia's public, private and non-profit sectors who work and/or live in the Region. Applications are due June 1, 2019. Learn more at *www.arc.gov/leadershipinstitute.*

DOE STEM Rising

Keeping the Nation's Critical Energy Infrastructure Secure and Resilient Requires a Strong STEM Workforce

Developing a strong, agile workforce to ensure we are prepared to address the challenges and opportunities of today and tomorrow is critical to the Nation and to DOE's mission. Across industry, academia, and the public sector, innovators who are committed to ensuring Americans have access to reliable and resilient energy use their expertise in STEM to develop advanced tools, technologies, and methods needed in our increasingly interconnected world.

Your A.I. Career: Alnur's Story

Alnur Ali didn't have a clue that the computer his finance-focused dad set up in the attic when Alnur was in elementary school would shape the course of his life. But after he got glued to playing games on the computer after school he began to think about making his own games and quickly progressed to learning coding, learning how to make websites, and even started his own small business designing websites for his neighbors.

Laboratory, Northern New Mexico College Launch Radiation Protection Course to Help Fill High-demand Jobs

To meet the high demand for radiological control technicians, Los Alamos National Laboratory (LANL) and Northern New Mexico College (NNMC) will begin offering a newly-expanded associate degree program in Radiation Protection for an initial cohort of 40 area students this June. The degree is a gateway to well-paying jobs in key mission areas at the Laboratory. "This new collaborative program with Los Alamos provides our students a clear path to well-paid jobs at the Lab," said Rick Bailey, president of NNMC. "Because the NNMC-LANL program provides area residents with access to in-demand jobs that are often difficult to fill, this new collaboration delivers a win-win solution for both the community and the Laboratory."

ABOUT NETL

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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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