

RWFI E-NOTE MONTHLY

REGIONAL WORKFORCE INITIATIVE • APRIL 2020

Welcome Message

Greetings NETL RWFI stakeholders,

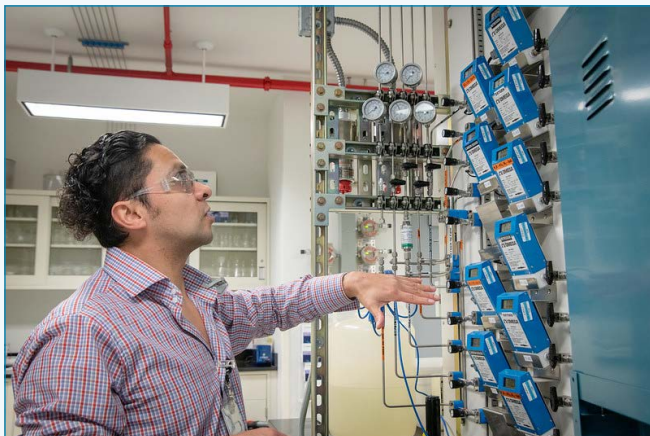
In this month's E-note, you will find the registration information for our upcoming NETL RWFI webinar briefing of the results from the *2020 National US Energy and Employment Report*, occurring on May 21, 2020, from 11:00–12:00 p.m. ET. The briefing will also include some preliminary information on how recent economic conditions may impact energy and manufacturing employment in the future. Also included in this month's e-note is notice of the *Appalachian Leadership Institutes* open application period for the 2020/2021 class of participants.

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



National Initiative for Cybersecurity Education (NICE) K12 Outreach Program

Department of Commerce, National Institute of Standard and Technology, Deadline, June 1, 2020

The National Institute of Standard and Technology (NIST) is seeking to provide financial assistance to support NICE, including outreach efforts to the broader cybersecurity education community at the primary and secondary school levels; this program will include planning and managing the annual NICE K–12 Cybersecurity Education Conference in the continental U.S. for up to the next five years.

Youth Apprenticeship Readiness Grant Program

Department of Labor, Deadline, May 6, 2020

The purpose of this program is to support the development of new or the expansion of existing Registered Apprenticeship Programs (RAP) for youth. This also includes quality pre-apprenticeship programs that lead to a RAP. This grant program supports the President's Executive Order and the Department of Labor, Employment and Training Administration's goals to promote pre-apprenticeships, to develop a strong youth apprenticeship pipeline, and to expand access to youth apprenticeships. As a result, the grant will: 1) increase awareness and adoption of the earn-and-learn apprenticeship model as a solution for experiential learning at the secondary educational level; 2) increase parental, young adult, and employer awareness around the benefits of youth participation in RAPs, as well as their engagement in these models; 3) develop and expand the number of RAP opportunities for youth, ensuring they meet RAP standards and pre-apprenticeship programs are of high quality and lead to RAP; 4) increase academic and career-focused learning among youth, based on sound assessments, to increase employability in the labor force; 5) promote increased alignment between state education and workforce systems through the development of policies that facilitate the transition from school to a RAP; and 6) increase RAP opportunities for all youth, particularly underrepresented populations (including women, people of color, ex-offenders, persons with disabilities), youth with barriers to employment, and out-of-school youth.

Mid-Scale Innovations Program (MSIP) in Astronomical Sciences

National Science Foundation, Deadline, May 20, 2020

A vigorous MSIP was recommended by the 2010 Astronomy and Astrophysics Decadal Survey, citing "many highly promising projects for achieving diverse and timely science." As described in this solicitation, the Division of Astronomical Sciences conducts a mid-scale program to support a variety of astronomical activities within a cost range up to \$30M. This program is formally divided into four subcategories: (1) limited term, self-contained science projects; (2) longer term mid-scale facilities; (3) development investments for future mid-scale and large-scale projects; and (4) community open access capabilities. The MSIP will emphasize both strong scientific merit and a well-developed plan for student training and involvement of a diverse workforce in instrumentation, facility development, or data management.

FY20 Small Business Innovation Research (SBIR) Phase 1 — 2nd Release

Department of Agriculture, Deadline, May 21, 2020

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 United States 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.

Building State Capacity to Expand Apprenticeship through Innovation

Department of Labor, Deadline, May 21, 2020

The goal of these funds is to expand the national Registered Apprenticeship system by funding baseline activities that improve States' ability to serve, improve, and strategically scale the Registered Apprenticeship Program (RAP) model described in 29 Code of Federal Regulations (C.F.R) parts 29, Subpart A, and 29 C.F.R.30 and to fund innovations aimed at using RAPs as a tool for developing the economy and building infrastructure. In June 2017, the President issued an Executive Order (E.O.) 13801, Expanding Apprenticeship in America, with a focus on preparing workers to fill both existing and newly created jobs and to prepare workers for the jobs of the future. Apprenticeship is an industry-driven, high-quality career pathway where employers can develop and prepare their future workforce and apprentices can obtain paid work experience, classroom instruction, and a portable, nationally recognized credential. The E.O. directs the federal government to "promote apprenticeships and effective workforce development programs." Expanding apprenticeships can help individuals gain the skills necessary to fill vacancies and help employers find skilled workers more easily and quickly.

Science and Technology Projects Related to Coal Mining and Reclamation

Department of Interior, Deadline, May 25, 2020

The United States Department of the Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE) is requesting Applied Science proposals for projects that develop and demonstrate improved science and technologies related to the mining of coal and the reclamation of the land after mining. Funded projects will help address important OSMRE issues related to implementation of the Surface Mining Control and Reclamation Act. Applicants may request funding up to \$200,000. The award will be by cooperative agreement (or as an Interagency Agreement if another Federal Agency is involved). Each cooperative agreement will be for a period consistent with the proposal but not to exceed two years from date of award. Each cooperative agreement grantee may apply for and be granted non-funded extensions of time only as necessary to complete the project. OSMRE will only grant extensions if the delays are beyond the control of the Principle Investigator. Included in this document are instructions for preparing the proposal including a list of eligible issues and a description of the proposal review process. OSMRE will only accept proposals that address the specific list of eligible issues.

Future Manufacturing

National Science Foundation, Deadline, July 5, 2020

Worldwide competition in manufacturing has been dominated in recent decades by the maturation, commoditization, and widespread application of computation in production equipment and logistics, effectively leveling the global technological playing field and putting a premium on low wages and incremental technical improvements. The next generation of technological competition in manufacturing will be dictated by inventions of new materials, chemicals, devices, systems, processes, machines, design and work methods, social structures, and business practices. Fundamental research will be required in robotics, artificial intelligence, biotechnology, materials science, sustainability, education and public policy, and workforce development to take the lead in this global competition. The research supported under this solicitation will enhance U.S. leadership in manufacturing far into the future by providing new capabilities for established companies and entrepreneurs, improving our health and quality of life, and reducing the impact of manufacturing industries on the environment. The goal of this solicitation is to support fundamental research and education of a future workforce that will enable Future Manufacturing — manufacturing that either does not exist today or exists only at such small scales that it is not viable. Future Manufacturing will require the design and deployment of diverse new technologies for synthesis and sensing, and new algorithms for manufacturing new materials, chemicals, devices, components, and systems. It will require new advances in artificial intelligence and machine learning; new cyber infrastructure; new approaches for mathematical and computational modeling; new dynamics and control methodologies; new ways to integrate systems biology, synthetic biology, and bioprocessing; and new ways to influence the economy, workforce, human behavior, and society.



NETL News



U.S. Department of Energy Announces \$131M for CCUS Technologies

The DOE's Office of Fossil Energy (FE) and NETL announced up to \$131 million for CCUS R&D projects through one new FOA and the winners of five project selections from a previous FOA. Under the new FOA, Engineering-Scale Testing from Coal- and Natural-Gas-Based Flue Gas and Initial Engineering Design for Industrial Sources, DOE is making up to \$46 million available for cost-shared R&D projects that capture and store CO₂ emissions from industrial sources. CCUS is often viewed in the context of power production. However, capture and storage of CO₂ from industrial sources is also vitally important to reducing greenhouse gas emissions.



Energy Department Issues Request for Proposal for Conceptual Designs Aimed at Rare Earth Production from Coal-Based Resources

DOE FE and NETL have issued a request for proposal (RFP) as an unrestricted, full, and open competition for the conceptual design of a system to produce 1–3 tonnes per day of mixed rare earth oxides or rare earth salts from domestic coal and coal by-product feedstocks. The proposal also includes an option to conduct a feasibility study sufficient to support cost estimates to assess the technical and economic feasibility of the approach identified in the conceptual design. The contract award(s) resulting from this RFP will be firm-fixed-price.

NETL Supports Research Triangle Institute's Exploration of Nanofiltration REE

As securing a domestic source of rare earth elements (REEs) remains a priority for the U.S. Department of Energy, a potential opportunity to obtain these elements is within reach thanks to our nation's abundant coal resources. With support from NETL, the Research Triangle Institute (RTI) is exploring methods by which REEs can be extracted, separated, and recovered from coal-based resources. As part of an NETL-funded cooperative agreement, Zachary Hendren, Ph.D., and his RTI team, which include Cerahelix and Veolia Water Technologies, are testing the efficacy of various approaches to REE recovery and enrichment (with a targeted concentrated goal of 2wt% mixed REE) from acid mine drainage (AMD) samples using a combination of novel technologies. This means that one of the nation's most abundant resources, coal, could provide a potential source of vital REEs without the investment required to open a new mine specifically dedicated to their extraction. Already existing coal mines could provide domestic supplies if the extraction methods are refined and desired purities reached.



Get to Know NETL: Focus on Pittsburgh, Pennsylvania

The history of NETL's Pittsburgh site stretches back to 1910, when the newly created Bureau of Mines in the U.S. Department of the Interior opened the Pittsburgh Experiment Station in Bruceton, Pennsylvania, 12 miles south of Pittsburgh. The station's original purpose was to investigate mining methods that would lower the number of fatal explosions and fires in U.S. underground coal mines. Much of the work carried out today at NETL-Pittsburgh focuses on process systems engineering, decision science, functional materials and environmental sciences. A tangible example of this is NETL's Analytical Lab, which conducts research on REEs to investigate the economic feasibility of recovering REEs from U.S. coal and coal byproducts. REEs are vitally important to the production of electronics, defense technology and other items used in everyday life.

Upcoming Workforce Conferences, Meetings, and Summits



NETL RWFI US Energy Employment Report 2020 Webinar Briefing

Webinar, May 21, 11:00 a.m.–12:00 p.m.

The National Energy Technology Laboratory's Regional Workforce Initiative (NETL RWFI) invites you to attend the 2020 U.S. Energy Jobs and Employment Report (USEER) Briefing webinar, where you will learn about the current state of the energy and advanced manufacturing workforce for the tri-state (Pennsylvania, Ohio, and West Virginia) and the broader Appalachian region as well as emerging national trend and national energy jobs data. The report will also touch on how recent events may affect employment in the short and long term in energy and manufacturing. *Registration is free but limited.*

Reports and Resources



NSF Science and Engineering Indicators Report 2020

National Science Foundation

Indicators provides information on the state of the U.S. science and engineering (S&E) enterprise over time and within a global context. Indicators is a factual and policy-neutral source of high-quality U.S. and international data; it does not offer policy options or make policy recommendations. The indicators presented in the report are quantitative representations relevant to the scope, quality, and vitality of the S&E enterprise. With the 2020 edition, Indicators is being redesigned to be maximally useful and accessible to a wide audience while maintaining the high quality of previous editions. It is being transformed from a single, voluminous report into a series of streamlined reports. *Indicators 2020* will consist of nine thematic reports produced and published beginning in the fall of 2019.

Appalachian Regional Commission (ARC) Now Accepting Applications for 2020–2021 Class of Appalachian Leadership Institute

Appalachian Regional Commission

ARC is currently accepting applications for the second class of the Appalachian Leadership Institute, a leadership and economic development training opportunity for community leaders who currently live and/or work in Appalachia. The extensive nine-month program focuses on skill-building, seminars, best practice reviews, mentoring, and networking. Applications are due by June 1, 2020.

ARC Expands COVID-19 Resources Web Page

Appalachian Regional Commission

During this challenging time for our communities, our Region, and our country, the Appalachian Regional Commission has launched a web page dedicated to providing resources to help communities, grantees, and partners navigate COVID-19. The [page](#) includes national, regional, and state resources, webinars, and other information. ARC's goal is to be a resource hub for the Appalachian Region during the COVID-19 crisis.

DOE STEM Rising



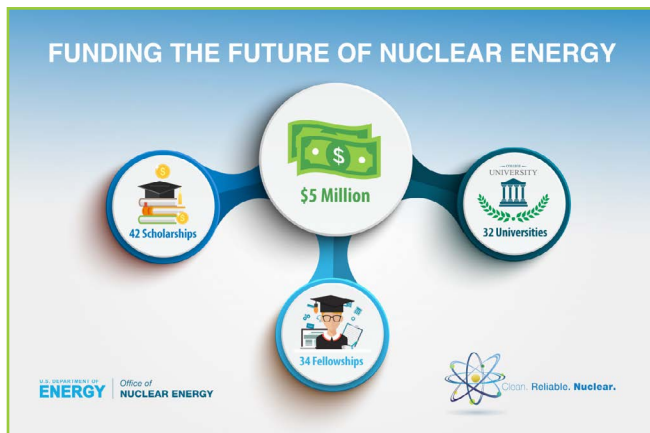
Idaho National Lab (INL) K–12 Education Program Works to Support Families Learning From Home

As the situation surrounding the COVID-19 global pandemic continues to evolve, we are all adjusting to a new normal. Schools in Idaho, and in most other states, will be closed to students for the next several weeks. The transition to students learning from home can be difficult not only for them, but for their family and other household members. As students, teachers and parents adjust to learning at home, INL's K–12 Education Program is dedicated to supporting these efforts by providing digital resources and other support.



Fellowship Builds Future Leaders for Nuclear Security

The Pacific Northwest National Laboratory and the National Nuclear Security Administration (NNSA) are building future leaders for nuclear security through the NNSA Graduate Fellowship Program (NGFP), a hands-on fellowship spanning the nuclear security enterprise. The fellowship's impacts are highlighted in the recently published [2019 Annual Report](#).



U.S. Department of Energy Announces Education Awards for the Next Generation of Nuclear Scientists and Engineers

"The Integrated University Program is focused on attracting the best and the brightest to nuclear energy professions," said Dr. Rita Baranwal, Assistant Secretary for Nuclear Energy. "We are continuing that effort through these awards to students who will help carry nuclear energy forward, while also enhancing educational institutions' capabilities to perform cutting-edge research and supporting the need for qualified personnel to develop and maintain the nation's nuclear power technology." Each undergraduate scholarship provides \$7,500 to help cover education costs for the upcoming year, while the three-year graduate fellowship provides \$52,000 each year to help pay for graduate studies and research. Fellowships also include \$5,000 to fund an internship at a U.S. national laboratory or other approved research facility to strengthen the ties between students and DOE's energy research programs.

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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