

RWFI E-NOTE MONTHLY

REGIONAL WORKFORCE INITIATIVE • JANUARY 2021

Welcome Message

Greetings NETL RWFI stakeholders,

Happy New Year, and welcome to a packed E-Note to start off 2021! Our funding in focus highlights the Appalachian Regional Commission's (ARC) Partnerships for Opportunity and Workforce Economic Revitalization (POWER) grant announcement.

Important Dates for ARC POWER Grant

Application portal opens Feb. 16, 2021

Letter of intent due: Mar. 5, 2021 (5 PM ET)

Proposal due date: Apr. 16, 2021 (5 PM ET)

You will also find in our events section an announcement on a workshop/webinar to discuss how to apply for this year's POWER grant. Additionally, in the events section, you will also find information about registering for our Webinar in March entitled "Predicting Future Regional and National Energy Workforce Needs," which will be a joint presentation with the Tri-State Energy and Advanced Manufacturing Consortium and collaboration by the Energy Futures Initiative. Trends in energy and manufacturing workforce jobs data will be discussed.

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



Appalachian Regional Commission (ARC) Partnerships for Opportunity and Workforce Economic Revitalization (POWER)

Appalachian Regional Commission, Deadline, April 16, 2021

ARC has released a Request for Proposals for applications for the 2021 POWER Initiative. ARC will begin accepting applications February 16, 2021. Letters of Intent are due by March 5th with final proposals being due by April 16, 2021. The POWER Initiative targets federal resources to help communities and regions that have been affected by job losses in coal mining, coal power plant operations, and coal-related supply chain industries due to the changing economics of U.S. energy production.

- Application portal opens Feb. 16, 2021
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University Training and Research for Fossil Energy Applications

Department of Energy, Deadline, Feb. 15, 2021

This funding opportunity will encompass two separate university programs, each with its own requirements and each with restricted eligibility. The two programs are the University Coal Research (UCR) Program and the Historically Black Colleges and Universities (HBCU) and Other Minority Institutions (OMI) Program. Each section of this document will be subdivided into a UCR section and an HBCU-OMI section to clearly address the requirements for each program. Through this funding opportunity announcement (FOA), the UCR Program supports the DOE's Office of Fossil Energy (FE) and the NETL mission by supporting long-term, high-risk meritorious fundamental research that advances the science of coal technologies at U.S. colleges and universities.

Research Traineeships to Broaden and Diversify Nuclear Physics (NP)

Department of Energy, Deadline, Feb. 24, 2021

The DOE Office of Science's NP program hereby announces its interest in receiving applications for Research Traineeships to Broaden and Diversify NP along with applications for related vehicles (e.g. a program support center, as described below) to provide support for program participants nationwide. This pilot program is intended to support training and research experiences for members of underserved communities with the goal of increasing the likelihood that participants from underrepresented populations, such as those present at minority serving institutions, will pursue a career in a STEM-related field, particularly in NP.

National Science Foundation Research Traineeship (NRT) Program

National Science Foundation, Deadline, Feb. 25, 2021

The NRT program addresses workforce development, emphasizing broad participation, and institutional capacity building needs in graduate education. The program encourages proposals that involve strategic collaborations with the private sector, non-governmental organizations, government agencies, national laboratories, field stations, teaching and learning centers, informal science centers, and academic partners. NRT especially welcomes proposals that include partnership with NSF INCLUDES and leverage INCLUDES project efforts to develop STEM talent from all sectors and groups in our society. For more information, [click here](#).

Campus Cyberinfrastructure

National Science Foundation, Deadline, March 1, 2021

The Campus Cyberinfrastructure program invests in coordinated campus-level networking and cyberinfrastructure improvements, innovation, integration, and engineering for science applications and distributed research projects. Learning and workforce development in cyberinfrastructure is explicitly addressed in the program. Science-driven requirements are the primary motivation for any proposed activity.

Build and Broaden 2.0: Enhancing Social, Behavioral and Economic Science Research and Capacity at Minority-Serving Institutions (MSIs)

National Science Foundation, Deadline, March 5, 2021

MSIs make considerable contributions to educating and training science leaders for U.S. economic growth and competitiveness. Yet, NSF has received comparatively few grant submissions from, or involving, scholars at MSIs. Targeted outreach activities reveal that MSIs have varying degrees of familiarity with funding opportunities within NSF and particularly within the Social, Behavioral, and Economic (SBE) Sciences Directorate. As a result, NSF is limited in its ability to support research and training opportunities in the SBE sciences at these institutions. With its emphasis on broadening participation of MSIs, Build and Broaden 2.0 is designed to address this problem. SBE offers Build and Broaden 2.0 in order to increase proposal submissions, advance research collaborations and networks involving MSI scholars, and support research activities in the SBE sciences at MSIs.

Fiscal Year (FY) 2021 Conservation Innovation Grants Pennsylvania State Program National Funding Opportunity

U.S. Department of Agriculture, Deadline, March 15, 2021

Applications are accepted from eligible entities for projects carried out in the state of Pennsylvania. A total of up to \$225,000 is available for the Pennsylvania CIG competition in FY21. All non-federal entities (NFEs) and individuals are invited to apply, with the sole exception of federal agencies. Projects may be between one and three years in duration. The maximum award amount for a single award in FY21 is \$75,000.

FY21 Conservation Innovation Grants Maryland State Program National Funding Opportunity

U.S. Department of Agriculture, Deadline, March 15, 2021

Applications are accepted from eligible entities for projects carried out in the state of Maryland. A total of up to \$150,000 is available for the Maryland CIG competition in FY21. All NFEs and individuals are invited to apply, with the sole exception of federal agencies. Projects may be between one and three years in duration. The maximum award amount for a single award in FY21 is \$75,000.

Hollings Manufacturing Extension Partnership (MEP) State Partnership Support Program

U.S. Department of Commerce, Deadline, March 17, 2021

The National Institute of Standards and Technology (NIST) Hollings Manufacturing Extension Partnership (NIST MEP) is seeking applications from eligible applicants to provide in-depth collaborative support in developing and advancing collaborative relationships between the NIST/MEP, MEP Centers, States and other stakeholders. This effort will help the MEP National Network to align programs and support systems to improve the competitiveness of the nation's manufacturers and to support the continuous improvement, growth, sustainability, supply chains, and innovation and technology acceleration in manufacturing.

Higher Education Challenge (HEC) Grants Program

U.S. Department of Agriculture, Deadline, March 18, 2021

Projects supported by the Higher Education Challenge Grants Program will address a state, regional, national, or international educational need; involve a creative or non-traditional approach toward addressing that need that can serve as a model to others; 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 result in benefits that will likely transcend the project duration and U.S. Department of Agriculture support.

FY20 Federal Aviation Administration (FAA) Aviation Workforce Development Grant Program — Aviation Maintenance

U.S. Department of Transportation, Deadline, March 22, 2021

Through the award of these grants, the U.S. Department of Transportation and the FAA will support the education and recruitment of aviation maintenance technical workers and the development of the aviation maintenance workforce. The program aims to provide meaningful educational experiences to stimulate interest and encourage students throughout the nation to prepare to enter this career field. The program also supports activities to facilitate the transition to careers in aviation maintenance, including members of the Armed Forces. Congress authorized the program through the end of FY23. A Federal Register Notice was published to open a period of public comment that closed on September 23, 2020.

Innovative Water Infrastructure Workforce Development Grant Program

Environmental Protection Agency, Deadline, March 26, 2021

The U.S. Environmental Protection Agency is soliciting applications from eligible applicants to assist in the development and use of innovative activities relating to water workforce development and career opportunities in the drinking water and wastewater utility sector and expand public awareness about drinking water and wastewater utilities and to connect individuals to careers in the drinking water and wastewater utility sector.

NSF Scholarships in STEM Program

National Science Foundation, Deadline, April 7, 2021

The main goal of the S-STEM program is to enable low-income, talented domestic students to pursue successful careers in promising STEM fields. Ultimately, the S-STEM program wants to increase the number of low-income students who graduate and contribute to the American innovation economy with their STEM knowledge. 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 adapt, implement, and study effective evidence-based curricular and co-curricular activities that support recruitment, retention, transfer (if appropriate), student success, academic/career pathways, and graduation in STEM.

FOA for the Department of Defense (DoD) National Defense Education Program (NDEP) for Science, Technology, Engineering, and Mathematics (STEM), and Biotechnology Education, Outreach, and Workforce Initiative Programs and Enhanced Civics Education

U.S. Department of Defense, April 19, 2021

The DoD NDEP seeks innovative applications on mechanisms to implement STEM education, outreach, and/or workforce initiative programs, here onto referred as STEM activities. NDEP also seeks innovative applications on mechanisms to specifically implement Biotechnology outreach and workforce development. Additional NDEP efforts also includes a pilot program in Enhanced Civics education.

Economic Development Agency (EDA) Research and National Technical Assistance (NTA) FY18 –FY20

Economic Development Agency, April 30, 2021

EDA provides strategic investments on a competitive merit basis to support economic development, foster job creation, and attract private investment in economically distressed areas of the United States. Under this Notice of Funding Opportunity, EDA solicits applications from applicants in order to provide investments that support research and technical assistance projects under EDA's Research & Evaluation and NTA programs. Grants and cooperative agreements made under these programs are designed to leverage existing regional assets and support the implementation of economic development strategies that advance new ideas and creative approaches to advance economic prosperity in distressed communities. EDA reserves the right to determine if an award will be structured as a grant or a cooperative agreement.

NETL News



U.S. DOE to Invest \$28.35M in Advanced Processing of Rare Earth Elements (REEs) and Critical Minerals (CM) for Industrial and Manufacturing Applications

The U.S. DOE FE has announced \$28.35 million in federal funding for cost-shared research and development projects under DE-FOA-0002404, Advanced Processing of Rare Earth Elements and Critical Minerals for Industrial and Manufacturing Applications. The U.S. imports more than half of its annual consumption of 31 of the 35 CMs. The U.S. has no domestic production for 14 CMs and is completely dependent on imports to supply its demand. CM are used in the manufacture of high-tech devices, national defense applications, and green growth-related industries. One of these CM, REEs are the 15 elements in the lanthanide series shown in the periodic table. Scandium and yttrium are included in the manufacture of cell phones, LED screens, solar panels, energy infrastructure, defense technologies, and other essential high-tech applications. The U.S. currently imports 80% of its REEs directly from China, with remaining portions indirectly sourced from China through other countries.



DOE Announces \$8 Million for Projects to Develop Algae-Based CO₂ Utilization

The U.S. DOE FE announced plans to make \$8 million in federal funding available for cost-shared research, development, and testing of technologies that can utilize CO₂ from power systems or other industrial sources for bio-mediated uptake by algal systems to create valuable products and services. DE-FOA-0002403, Engineering-Scale Testing and Validation of Algae-Based Technologies and Bioproducts, will support the goals of DOE's Carbon Utilization Program. The primary objective of carbon utilization technology development is to lower the near-term cost of carbon capture through the creation of value-added products from the conversion of CO₂.

U.S. DOE Announces \$15 Million in Funding Opportunities for Direct Air Capture Technologies

The U.S. DOE FE announced up to \$15 million in federally funded financial assistance for cost-shared research and development projects under DE-FOA-0002402, Carbon Capture R&D: Bench-Scale Testing of Direct Air Capture Components (TRL 3) and Initial Engineering Design for Carbon Capture, Utilization and Storage Systems from Air (TRL 6).

DOE Announces \$160 Million for Projects to Improve Fossil-Based Hydrogen Production, Transport, Storage and Utilization

The U.S. DOE FE announced plans to make \$160 million in federal funding available to help recalibrate the Nation's vast fossil-fuel and power infrastructure for decarbonized energy and commodity production. The funding, for cost-shared cooperative agreements, is aimed to develop technologies for the production, transport, storage, and utilization of fossil-based hydrogen, with progress towards net-zero carbon emissions.

The University of North Dakota (UND) Exceeds Goals in NETL-Supported REE Extraction Project

An NETL-supported project at UND to economically extract strategically important REEs has shown that lignite is a potential domestic source of these vital minerals using a process that also produces valuable by-products and takes advantage of existing mining infrastructure. REE have been designated as critical minerals by the U.S. Department of the Interior due to their unique properties, which are essential and often non-substitutable in a variety of consumer goods, energy systems and defense applications. With China largely controlling the global production and value chain, the U.S has begun moving to generate domestic supplies of these critical resource, a task NETL has supported with its partners in academia such as UND. During UND's work, researchers simplified an acid-leaching REE extraction process to a single step for economic benefit.



Harnessing Advanced Computing and Data to Craft Alloys of Tomorrow

Energy trends are changing, which means the nation's energy infrastructure must change too, including the designs of transformational power technologies like ultra-supercritical steam plants and supercritical carbon-dioxide power systems. To operate efficiently at higher temperatures and pressures, power plants of the future will need new affordable materials that can deliver both superior corrosion and creep resistance. These alloys can operate in many industrial environments such as such as gas turbines or chemical processing plants without sacrificing the typical lower cost, formability, and weldability of conventional high-temperature materials. Such systems will increase efficiency, lower costs and reduce emissions from fossil-fired power cycles, ensuring affordable and reliable energy for the nation well into the future.

Events and Meetings



ARC POWER Webinar

Online Webinar, Feb. 2, 2021

This info session will give applicants a greater understanding of the POWER Initiative and the qualities of a well-rounded application. After the general session, ARC will release a collection of prerecorded training sessions on the POWER investment strategies and more to assist with application submittal. A follow-up Q&A session will take place on Thursday, February 25, 2021, at 11:00 a.m. Links for both sessions will be sent out on the day before the webinar. More information about the POWER Initiative is available [here](#).

Introduce a Girl to Engineering Day (IGED) at Argonne National Laboratory

Online Event, Feb. 18, 2021

Participants will enjoy motivational presentations by female Argonne employees, tour Argonne's cutting-edge research facilities, connect with a mentor, engage in hands-on engineering experiments, and compete in a team challenge — all designed specifically for 8th grade girls. While we continue to maintain everyone's safety and wellness, we will be moving the 2021 IGED to a virtual experience. Students will still be paired with mentors. Throughout the day, the students will be encouraged to participate in large and small group activities that provide them opportunities to learn about a number of STEM careers.

NETL Regional Workforce Initiative (RWFI)/Tri-State Energy and Advanced Manufacturing Consortium (TEAM) and the Energy Futures Initiative (EFI), Predicting future regional and National Energy Workforce Needs

Online Webinar, March 9, 2021, 10:00–11:30 a.m., ET

The NETL RWFI will host the TEAM consortium and the EFI in a joint webinar on March 9, 2021, from 10:00–11:30 a.m., which will focus on challenges and opportunities in the regional energy and advanced manufacturing ecosystem in the short- and long-term future. Speakers from both TEAM and the EFI will present information on jobs data trends and analysis and regional workforce issues.

Reports and Resources



Access in Appalachia

Appalachian Regional Commission

This study, commissioned by ARC, analyzes how transportation options, and lack thereof, can impact economic development and access to services across the Region. The report understands transportation accessibility as the ability of people and businesses to access desired and needed activities, services, and goods within existing transportation options. This includes business access to supply chains, labor, and markets, and consumer access to food, health care, and education.

COVID-19 in Appalachia

Appalachian Regional Commission

As COVID-19 continues to impact the nation, ARC is carefully monitoring its effects in Appalachia. ARC's goal during this crisis is to be a resource hub for the region. Explore the maps, data, and webinars collected from the federal government, the 13 Appalachian state governments, and ARC partners.

DOE STEM Rising



DOE Partners with Youngstown State University and Oak Ridge National Laboratory to Support Battery Manufacturing Workforce

The \$1 million project will assist in the development of an Energy Storage Workforce Innovation Center, which will serve as a training center based in the Midwest. The training center would support the battery and electro voltaic manufacturing industry in the North-East region of Ohio — referred to as “Voltage Valley” due to the number of investments made in the area by the electric vehicle industry — by helping supply a capable workforce.

University Students Collaborate With Oak Ridge National Laboratory on Cleanup Tools

A four-student senior design project team and a graduate research assistant from the university's nuclear engineering department are assisting in qualifying a new type of gamma-ray imaging system to support the collection of radiological data necessary to ensure safe work planning and execution.

Students Nationwide to Compete in 31st Department of Energy National Science Bowl

Thousands of students from middle and high schools across the country have committed themselves to extra study hours as they prepare to compete in the DOE's 31st National Science Bowl. These students are hard at work now—studying, practicing, and strategizing to win their regional competitions, hoping to advance to the final competition.

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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