

RWFI E-NOTE MONTHLY

REGIONAL WORKFORCE INITIATIVE • AUGUST 2022

Welcome Message

Greetings NETL RWFI stakeholders,

This month's funding opportunity in focus is the *Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science* (INCLUDES) program from the National Science Foundation (NSF). The deadline for this funding opportunity is Oct. 25, 2022. NSF INCLUDES is a comprehensive, national initiative to enhance U.S. leadership in STEM discovery and innovation, focused on NSF's commitment to ensuring accessibility, equity and inclusivity in STEM fields.

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.

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– Sincerely, The NETL Regional Workforce Initiative Team

Workforce Funding Announcements

FUNDING SPOTLIGHT



National Science Foundation (NSF) Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (INCLUDES)

National Science Foundation, Deadline, Oct. 25, 2022

NSF INCLUDES is a comprehensive, national initiative to enhance U.S. leadership in STEM discovery and innovation, focused on NSF's commitment to ensuring accessibility, equity and inclusivity in STEM fields, as communicated in the *NSF Strategic Plan for Fiscal Years (FY) 2022–2026*. The vision of NSF INCLUDES is to catalyze the STEM enterprise to work collaboratively for inclusive change, resulting in a STEM workforce that reflects the diversity of the nation's population. More specifically, NSF INCLUDES seeks to motivate and accelerate collaborative infrastructure building to advance equity and sustain systemic change to broaden participation in STEM fields at scale. Significant advancement in the inclusion of groups that have historically been excluded from or underserved in STEM will result in a new generation of STEM talent and leadership to secure the Nation's future and long-term economic competitiveness.

Tribal Colleges and Universities Program (TCUP)

National Science Foundation, Deadline, Sept. 1, 2022

TCUP provides awards to federally recognized Tribal Colleges and Universities, Alaska Native-serving institutions, and Native Hawaiian-serving institutions to promote high-quality STEM (including sociology, psychology, anthropology, linguistics, economics and bioeconomics, statistics, and other social and behavioral sciences; natural sciences; computer science, including, but not limited to, artificial intelligence, quantum information science, and cybersecurity) education, research, and outreach. Support is available to TCUP-eligible institutions (see the Additional Eligibility subsection of Section IV of this solicitation) for transformative capacity-building or community engagement projects through the following: Instructional Capacity Excellence in TCUP Institutions; Targeted STEM Infusion Projects; TCUP for Secondary and Elementary Teachers in STEM; TCU Enterprise Advancement Centers; Cyberinfrastructure Health, Assistance, and Improvements; and Preparing for TCUP Implementation. Collaborations led by TCUP institutions that involve non-TCUP institutions of higher education are supported through TCUP Partnerships, with the participation of other NSF programs to support the work of non-TCUP institutions. Finally, research studies that further the scholarly activity of individual faculty members are supported through Small Grants for Research. Through the opportunities highlighted above, as well as collaborations with other NSF divisions and directorates, and other organizations, TCUP aims to increase Native individuals' participation in STEM careers, improve the quality of STEM programs at TCUP-eligible institutions, and facilitate the development of a strong STEM enterprise in TCUP institutions' service areas.

FY22 Department of Navy (DON) STEM, Education and Workforce Program administered by the Office of Naval Research (ONR)

Department of the Navy, Deadline, Sept. 2, 2022

ONR is interested in receiving a broad range of proposals for augmenting existing and/or developing innovative solutions that directly maintain, and/or cultivate a diverse, world-class STEM workforce to maintain the U.S. Navy and Marine Corps' technological superiority. The goal of proposed efforts must provide solutions that establish, build, and/or maintain STEM educational pathways of U.S. citizens directly relevant to the needs of Department of Navy's (DON) current and future workforce. As the capacity of the DON Science and Technology (S&T) workforce is interconnected with the STEM education system, DON recognizes the need to support efforts that can jointly improve STEM student outcomes and align educational and outreach efforts with Naval S&T current and future workforce needs. This announcement explicitly encourages programs that improve the capacity of education systems and communities to create impactful STEM educational experiences for students of all ages and the naval related workforce. Programs must aim to increase engagement in naval relevant STEM, and enhance the corresponding skills, knowledge, and abilities of participants. ONR encourages

applicants to utilize current STEM educational research for informing program design and advancing STEM careers and opportunities of naval relevance.

Youth Engagement, Education, and Employment

Department of the Interior, Fish and Wildlife Service, Deadline, Sept. 15, 2022

The U.S. Fish and Wildlife Service (FWS) is the premier government agency dedicated to the conservation, protection, and enhancement of fish, wildlife and plants, and their habitats. They are the only agency in the federal government whose primary responsibility is the conservation and management of these important natural resources for the American public. The service's origins date back to 1871 when Congress established the U.S. Fish Commission to study the decrease in the nation's food fishes and recommend ways to reverse that decline. Today, they are a diverse and largely decentralized organization, employing about 8,000 dedicated professionals working out of facilities across the country, including a headquarters office in Falls Church, Virginia, and eight regional offices representing the 12 Unified Interior Regions. A variety of programs within the U.S. Fish and Wildlife Service and the National Wildlife Refuge System are focused on engaging diverse youth in wildlife conservation and public land management. The service enters into cooperative agreements with member organizations of the FWS Youth Corps to engage with youth and veterans in projects under the Authority of the Public Lands Corps Act.

Advanced Scientific Computing Research (ASCR) — Reaching a New Energy Sciences Workforce (RENEW)

U.S. Department of Energy, Deadline, Sept. 16, 2022

The DOE Scientific Computing (SC) program in ASCR announces its interest in receiving applications for RENEW. The goal of ASCR's RENEW program is to increase participation of underrepresented groups in the quantum computing and networking workforce and to increase participation of underrepresented institutions in quantum computing and networking workforce training. SC-ASCR is fully committed to advancing a diverse, equitable, and inclusive research community which is key to providing the scientific and technical expertise for U.S. scientific leadership. This pilot program is intended to leverage ASCR's unique national laboratory infrastructure and user facilities to provide training and research opportunities for students, postdoctoral researchers, and faculty from underrepresented groups and at institutions that are currently underrepresented in the ASCR portfolio such as non-R1 institutions of higher education and minority serving institutions, including Historically Black Colleges and Universities. The hands-on experiences gained through RENEW will open new career avenues for the participants who will gain the critical skills and expertise needed for the full breadth of quantum computing and networking activities, including DOE national laboratory staffing. Institutional capacity developed through RENEW will likewise open career avenues for future generations. RENEW aims to build foundations for SC research and training at institutions historically underrepresented in the SC research portfolio. RENEW leverages SC's unique national laboratories, user facilities, and other research infrastructures to provide undergraduate and graduate training opportunities for students and academic institutions not currently well represented in the U.S. S&T ecosystem.

Improving Undergraduate STEM Education: Hispanic-Serving Institutions (HSIs)

National Science Foundation, Deadline, Sept. 30, 2022

The goals of the HSI program are to enhance the quality of undergraduate STEM education and to increase the recruitment, retention, and graduation rates of students pursuing associate's or baccalaureate degrees in STEM. Achieving these, given the diverse nature and context of the HSIs, requires additional strategies that support building capacity at HSIs through innovative approaches to incentivize institutional and community transformation and to promote the following fundamental research: on engaged student learning, about what it takes to diversify and increase participation in STEM effectively, and that improves our understanding of how to build institutional capacity at HSIs. Intended outcomes of the HSI Program include broadening participation of students that are historically underrepresented in STEM and expanding students' pathways to continued STEM education and integration into the STEM workforce.

Growth Opportunities

Department of Labor, Employment, Labor and Training, Deadline, Oct. 5, 2022

Now accepting applications for Round 2. Please see the closing date above. Through the Growth Opportunities grant program, the department will introduce and prepare justice-involved youth and young adults for the world of work through placement into paid work experiences. These grants focus on youth and young adults most impacted by community violence, particularly in areas of concentrated crime and poverty as well as communities that have recently experienced significant unrest. This program contributes to the Biden-Harris Administration's comprehensive strategy to combat gun violence and other violent crime, in part, with preventative measures that are proven to reduce violent crime and support public safety and community well-being. The goals of the grant are to: help youth and young adults to increase their conflict resolution skills and develop strategies to prevent and avoid violence; introduce and prepare youth for the world of work; help youth identify career interests, attain relevant skills and gain work experience; and provide income to youth, to start them on the path of earning living wages and obtaining high quality jobs and careers.

Advanced Technological Education (ATE)

National Science Foundation, Deadline, Oct. 6, 2022

With a focus on two-year Institutions of Higher Education (IHEs), the ATE program supports 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), industry, and economic development agencies 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 applied research proposals that advance the knowledge base related to technician education. It is required that projects be faculty driven and that courses and programs are credit bearing, although materials developed may also be used for incumbent worker education.

Strengthening Community Colleges Training Grants

Department of Labor, Employment, Labor and Training, Deadline, Oct. 14, 2022

This FOA now has two closing dates. The first closing date was June 2, 2022, and the second closing date is Oct. 14, 2022 (see Amendment 2). This Funding Opportunity Announcement (FOA) solicits applications for the second round of Strengthening Community Colleges Training Grants (SCC2 or SCC3). For the purposes of this FOA, this training initiative has two parts: the standard program grants will be referred to as SCC2 or SCC3 Program Grants and the additional evaluation funds will be referred to as Additional SCC2 or SCC3 Evaluation Funding. The purpose of this program is to address two inter-related needs: 1) to increase the capacity and responsiveness of community colleges to address identified equity gaps, and 2) to meet the skill development needs of employers in in-demand industries and career pathways, as well as the skill development needs of underserved and underrepresented workers.

Clean Energy Manufacturing Innovation Institute for Industrial Decarbonization through Electrification of Process Heating

Department of Energy, Deadline, Oct. 25, 2022

NSF’s Education and Human Resources Directorate seeks to significantly enhance its support for research, development, implementation, and assessment to improve STEM education at the nation’s two-year colleges. NSF encourages bold, potentially transformative projects that address immediate challenges facing STEM education at two-year colleges and/or anticipate new structures and functions of the STEM learning and teaching enterprise. This program description is a targeted approach for advancing innovative and evidence-based practices in undergraduate STEM education at two-year colleges. It also seeks to support systemic approaches to advance inclusive and equitable STEM education practices. Projects will be expected to build on prior fundamental and/or applied research in STEM education and provide theoretical and empirical justification for proposed projects as needed. Projects will also be expected to be research-informed and to result in field-tested outcomes and products that enhance STEM teaching and learning at two-year colleges. Potential Outcomes of Interest: NSF is interested in projects with potential outcomes that include but are not limited to: making systemic improvements in STEM education; promoting diversity, equity, and inclusion; and/or mitigating the disproportionate impact of the COVID-19 pandemic on two-year colleges.

Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs Phase I

US Department of Agriculture, Deadline, Oct. 25, 2022

Projects dealing with agriculturally related manufacturing and alternative and renewable energy technologies are encouraged across all SBIR/STTR topic areas. The U.S. Department of Agriculture (USDA) SBIR/STTR’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. The USDA SBIR/STTR programs have awarded more than 2,000 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. Click below for more SBIR/

STTR information.

Agriculture and Food Research Initiative Competitive Grants Program Education and Workforce Development Program

National Institute of Food and Agriculture, Deadline, Oct. 27, 2022

The Agriculture and Food Research Initiative — Education and Workforce Development (EWD) focuses on developing the next generation of research, education, and extension professionals in the food and agricultural sciences. In FY 2021, EWD invites applications in seven areas: agricultural workforce training; professional development for agricultural literacy; training of undergraduate students in research and extension; fellowships for predoctoral candidates; fellowships for postdoctoral scholars, a new program for food and agricultural non-formal education, and a FY 2021-only program for evaluation of the National Institute of Food and Agriculture’s agricultural literacy and workforce development portfolio. See EWD Request for Applications for specific details.

Geoscience Opportunities for Leadership in Diversity, Deadline, Oct. 28, 2022

National Science Foundation, Deadline, Oct. 28, 2022

The world is facing “all minds needed” problems, but due to historical systemic structures, all minds have not been fully engaged. Recent research shows that science scholars who are underrepresented in STEM produce higher rates of scientific novelty, yet they do not persist in the systems where the innovation is created (Hofstra et al. 2020). Because the geosciences continue to lag other STEM fields in creating a diverse community of researchers, scholars, and practitioners, disruptive strategies and evidence-based practices are needed to recruit and specifically retain individuals who historically have not been included in geoscience education, research and careers.

NETL News



NETL Researchers Advance Carbon Matchmaker to Make Connections for Lower Emissions

NETL’s expertise in geo-data science and computational data management and virtualization has supported the development and deployment of a web-based platform to connect entities that generate CO₂ with the technology and commercial sectors that offer capabilities to reduce greenhouse gas emissions.



NETL Hydrogen Research — An Introduction

NETL, through its research on hydrogen production, transportation, storage and use, is playing a critical role in U.S. DOE efforts to put hydrogen on the front lines of efforts to attain net-zero carbon emission goals in the power sector by 2035 and the broader economy by 2050, while meeting DOE's Hydrogen Shot goal of \$1 per 1 kilogram in one decade.



NETL's Tool for Estimating Geological Environments for CO₂ Storage Attracts International Attention

As countries around the world mobilize to battle climate change, a growing number of organizations, institutions of higher education and governments from more than 90 nations including Norway, Spain, France, South Korea, India, Australia, Mexico and the United Kingdom are turning to a user-friendly, yet sophisticated tool developed by a team of NETL researchers to estimate the feasibility of storing captured CO₂ in underground geological environments.



Summer Edition of NETL's Water-Energy Nexus News Released

The summer edition of NETL's Water-Energy Nexus News focuses on groundbreaking research and other efforts to enhance the nation's energy foundation while helping to protect water resources for future generations.



U.S. DOE Announces \$32 Million to Reduce Methane Emissions from Oil and Gas Sector

WASHINGTON, D.C.— The U.S. DOE today announced up to \$32M in funding toward the research and development of new monitoring, measurement, and mitigation technologies to help detect, quantify, and reduce methane emissions across oil and natural gas producing regions of the United States. After carbon dioxide, methane is the most abundant greenhouse gas (GHG) warming our planet, and methane emissions contribute significantly to the GHG intensity of natural gas.



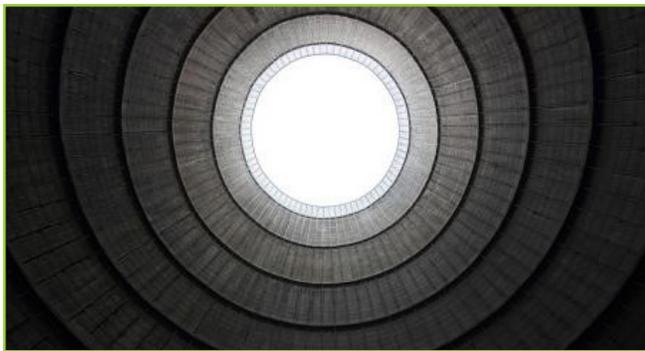
NETL's Summer Research Associates Make Valuable Contributions

On-site learning experiences returned to NETL this summer, providing research associates with valuable opportunities to advance cutting-edge technologies, write papers and present their findings while collaborating with Lab's world-class engineers and scientists.



NETL Explores Sorbent-Based Direct Air Capture Systems for the Removal of Atmospheric CO₂

A case study conducted by the U.S. DOE's NETL examined the performance and cost of different sorbent-based direct air capture (DAC) system configurations that remove CO₂ from the atmosphere.



NETL Supports Start-Up's Technology to Produce Clean Water from Cooling Tower Plumes

The U.S. DOE's NETL is supporting an award-winning startup company to help develop a novel power plant technology that can produce clean water from cooling tower plumes. The technology could significantly reduce water consumption in evaporative cooling tower systems by capturing water from cooling tower plumes, which are formed when water vapor generated in cooling towers mixes with colder ambient air as it leaves the tower and condenses.

DOE STEM Rising



Teens Find Passion, Future Opportunities at Oak Ridge STEM Summer Camp

For about a dozen teens, summer camp brought them into the world of EM's environmental cleanup at Oak Ridge. The students came from across the Appalachian region to attend the Oak Ridge Associated Universities Summer STEM Academy. Part of the two-week program included a tour of the Oak Ridge Reservation..



Women @ Energy: Dr. Emily Shemon

Learn why Dr. Emily Shemon loves her job at Argonne National Laboratory as a Principal Nuclear Engineer.

Reports and Resources

Gaps in the Energy Workforce

Center for Energy Workforce Development

In 2021, the Center for Energy Workforce Development conducted the ninth Gaps in the Energy Workforce Pipeline survey. This survey has been conducted bi-annually for the past 15 years to help analyze the changes occurring in the workforce within the energy sector.

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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