

Federal Efforts and Opportunities to Broaden Participation and Address Racial Equity in Research and Education

Lewis-Burke Associates LLC – December 16, 2021

COVID-19 and systemic racism are twin pandemics that continue to expose inequities in American society. This document provides an overview of actions and initiatives across the Administration, Congress, and federal agencies that aim to address racial equity and broaden participation of underrepresented groups across the research, innovation, and education landscape.

The **Biden Administration** has made promoting equity and addressing systemic racism a [priority](#), with President Biden signing [Executive Order \(EO\) 13985](#), “Advancing Racial Equity and Support for Underserved Communities Through the Federal Government” on his first day in office. This EO immediately revoked President Trump’s Executive Order [13950](#) and [13958](#) which had prohibited the federal government from providing certain workplace diversity and training programs. Executive Order 13985 promotes a “whole-of-government equity agenda” to address the challenges the country faces. This executive order requires every federal agency to take a comprehensive look at its policies and programs and reevaluate them to ensure equal opportunities for communities that are historically underserved, marginalized, and faced with inequity. A major part of this executive order was the establishment of the Equitable Data Working Group, tasked with gathering the data necessary to ensure federal funding, programs, and policies are advancing equity. The information gathered through this group will inform federal agencies as they move forward with plans to advance equity.

President Biden’s goal of addressing racial equity has been present in his presidential budget request and major pieces of legislation such as the *Build Back Better Act*. In his first [budget request](#), President Biden addressed racial equity throughout federal agency funding requests. In the proposed budgets federal research agencies would see major funding increases, including increases for programs that prioritize advancing equity in STEM. For example, the National Science Foundation (NSF) would put major emphasis on advancing equity in STEM, proposing to grow total investment in these programs by approximately 50 percent, to \$100 million.

In **Congress**, the bipartisan [Infrastructure Investment and Jobs Act](#) (H.R. 3684) that was signed into law in November, includes a huge investment in broadband equity and improving access for underserved communities. Much of President Biden’s agenda is still being negotiated in Congress, but Congress is largely supportive of the components promoting equity and broadening participation. At the time of this writing, several pieces of legislation are still being considered including fiscal year (FY) 2022 spending bills and the \$1.7 trillion social infrastructure bill, the *Build Back Better Act*. These legislative efforts include support for increased research capacity and improved research infrastructure at Minority Serving Institutions (MSIs) and programs to enhance diversity in research and the research workforce. In the new year, Lewis-Burke anticipates increase funding for these efforts as these bills potentially become law.

Following this momentum, many **agency leaders** have revealed plans over the past year to improve efforts to address racial equity and broaden participation in research. In this document, Lewis-Burke provides updates on recent activities at various federal agencies that address discrimination and disparities across the research and education community. The document also presents examples of new and/or restated funding opportunities at agencies to support broadening participation, while noting that new programs focused on broadening participation continue to be announced across federal agencies. Please note that this document does not provide a comprehensive list of all programs available to advance broadening

participation but is intended to serve as a guide.

Presented below are some highlights of recent actions at federal research agencies, including:

- Federal Agency Commitments to Addressing Racial Equity in the Research Community; and
- Appendix: Federal Agency Funding Opportunities to Support Broadening Participation in Research Activities.

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Federal Agency Commitment to Addressing Racial Equity in the Research Community

National Science Foundation (NSF)

The National Science Foundation (NSF) is committed to broadening participation and increasing the participation of underrepresented groups and diverse institutions across the U.S. for all NSF activities and programs. NSF's Director, Dr. Sethuraman Panchanathan (Panch), has made strengthening the STEM pipeline and broadening participation in the sciences a top priority for his term. Broadening participation is written explicitly into NSF's [strategic plan](#) and the agency has the following outcome goals for engaging more underrepresented populations in science: "Preparing a diverse, globally engaged science, technology, engineering, and mathematics (STEM) workforce; integrating research and education, and building capacity; expanding efforts to broadening participation from underrepresented groups and diverse institutions across all geographic regions in all NSF activities; and improving processes to recruit and select highly qualified reviewers and panelists."

NSF's commitment to strengthening the STEM pipeline through broadening participation manifests itself largely through its investments in its research programs. Increasingly, true partnerships with minority communities, researchers, and MSIs has been a requirement for receipt of NSF grant awards, and the agency is potentially considering including 'impact on diversity, equity, and inclusion' into their consideration of the "broader impacts" review criteria for grant awards. The NSF budget request to Congress for FY 2022 included a proposed 50 percent increase in funding for programs focused on broadening participation in STEM, which would take total funding to around \$100 million. This would include funding directly to Historically Black Colleges and Universities (HBCUs) and other MSIs to build capacity in science and engineering along with programs focused on the recruitment and retention of underrepresented individuals. NSF also plans to increase funding for education at all levels from PreK-12 to graduate education and beyond that will include a focus on broadening participation in STEM.

The Committee on Equal Opportunity in Science and Engineering ([CEOSE](#)) is an NSF advisory committee dedicated to advising NSF on policies to encourage full participation of underrepresented groups in STEM. Through their reports to Congress, CEOSE makes recommendations to NSF about how they can better encourage full participation of underrepresented groups in STEM. In its 2019-2020 biannual report to Congress, CEOSE emphasized the need to "make visible the invisible" and the importance of increasing diversity in STEM leadership. Specifically, CEOSE [recommended](#) NSF "demonstrate and promote bold leadership actions to create, integrate, and make visible elements within and across its programs to enhance broadening participation of underrepresented and underserved groups in STEM."

The National Science Board (NSB) is also deeply committed to broadening participation. One of the four pillars of NSB's Vision 2030 is to "Develop STEM Talent for America." The Vision document states that, to be ready by 2030, the U.S. must ensure more Americans have the skills to thrive in a knowledge and technology intensive economy. "To meet these needs, the U.S. must take a two-pronged approach. We must expand domestic talent and attract global talent. And we must do more to retain both groups in STEM." CEOSE also emphasized the need to champion broadening participation as a strategy to promote and advance scientific research and not a problem to be solved. The committee recommended several short-term actions to NSF that the Foundation could utilize to realize the overarching broadening participation goal outlined above. Some of the most relevant to institutions of higher education include:

- Develop additional review criteria that request evidence around leadership actions and frame funding programs that arise from the 2026 Idea Accelerator in the context of both science and BP/DEI;

- Use elements of existing model programs, like ADVANCE and EPSCoR, but direct program focus on diverse mid-career faculty that want to pursue leadership positions in STEM;
- Create new awards to recognize broadening participation in STEM to become a part of NSF’s group of prestigious awards;
- Train proposal reviewers and program officers to recognize and value leadership and positive risk-taking behaviors;
- Fund development of institutional broadening participation infrastructure to make institutions competitive for awards and establish grant programs to focus on development of institutional broader impacts and institutional transformation; and
- Require and hold funded grants accountable for the sustainability of DEI plans to encourage long-term mindset change.

NSF is not required to take CEOSE’s recommendations but given Director Panchanathan’s commitment to broadening participation, it is likely the recommendations will be considered and have the potential to be adopted. CEOSE has announced the topics of their next two reports will focus on intersectionality and the recognition of severely underrepresented groups in STEM.

Department of Health and Human Services (HHS)
National Institutes of Health (NIH)

The National Institutes of Health (NIH) has a long history of programs and funding opportunities focused on broadening participation in biomedical research. Despite its current efforts, NIH Director, Francis Collins, recognizes that these efforts have not been sufficient. In a [blog post](#) on March 1, 2021, Dr. Collins apologized to individuals in the biomedical research enterprise that have suffered due to the disadvantages of structural racism. In that same post he announced NIH’s new initiative to end structural racism and racial inequities in biomedical research called UNITE. The [UNITE](#) Initiative, is grounded by the work of five subcommittees, each organized around a theme central to NIH’s diversity, equity, and inclusion objectives. These include:

- Understanding stakeholder experiences through listening and learning;
- New research on health disparities, minority health, and health equity;
- Improving the NIH culture and structure for equity, inclusion, and excellence;
- Transparency, communication, and accountability with internal and external stakeholders; and
- Extramural research ecosystem: changing policy, culture, and structure to promote workforce diversity.

Since the UNITE program was launched, each committee has worked to advance the goals of the initiative. In the spring, NIH released a [request for information](#) (RFI) soliciting “Comments and Suggestions to Advance and Strengthen Racial Equity, Diversity, and Inclusion in the Biomedical Research Workforce and Advance Health Disparities and Health Equity Research.” With over 1,100 responses the preliminary analysis indicated the research community would like to see “actions beyond words”, enhancement of current programs and activities that promote racial equity, and respondents emphasized there will be no easy way to solve this issue at the agency. The responses of the RFI coupled with the analysis of several listening sessions of the intramural and extramural research community will result in a complete final analysis of these comments and suggestions to be released in early 2022. The feedback provided will inform the action plan of the UNITE committee going forward.

In addition to soliciting feedback, the UNITE committee is dedicated to increasing transparency on NIH’s

demographics for funding extramural research. NIH is working on several data dashboards to demonstrate the demographics of those funded by NIH and the demographics of NIH staff. UNITE is also working to implement recommendations from NIH stakeholders, starting with the highest priority items. These recommendations include but are not limited to:

- Increasing career opportunities for underrepresented groups;
- Promoting extramural institutional culture change in support of inclusivity and equity;
- Identifying and changing NIH processes and policies contributing to inequities in extramural funding; and
- Building and sustaining research capacity at Minority Serving Institutions.

Although the UNITE initiative is a large part of the effort to address structural racism within biomedical research at the NIH it is not the only effort working to address this issue. The Advisory Committee to the Director Working Group on Diversity continues to work on these efforts and provide input to the NIH Director on diversity, equity, and inclusion. Also, almost every Institute/Center has formed working groups of its own to review its policies and programs and improve racial equity in its research program. In addition, NIH leadership are working to release a NIH-wide diversity, equity, inclusion, and accessibility (DEIA) strategic plan that will harmonize with the [NIH-Wide Strategic Plan](#) framework in summer 2022. Representatives from across the agency are working on this strategic plan and NIH plans to solicit input from the public in early 2022.

Agency for Healthcare Research and Quality (AHRQ)

In an effort to [address historical racism and inequality in the healthcare system](#), AHRQ has endeavored to implement reforms and initiatives at the agency aiming to further diversity in the health services research field and support healthcare systems' missions to achieve equity. AHRQ plans to develop new funding mechanisms to support career development of health researchers from underrepresented backgrounds, improve health equity components of the AHRQ research portfolio, solicit research proposals addressing racism and health outcomes impacts, and reevaluate AHRQ's own grantmaking efforts for any systemic racism or bias in awarding funds.

Department of Education (ED)

Advancing equity and addressing systematic racism via education has been a priority for the Biden Administration and U.S. Secretary of Education Miguel Cardona. Many of ED's programs, while not explicitly focused on broadening participation, do focus on supporting students from disadvantaged backgrounds and students of color. In September, ED shared an update on how many Office of Postsecondary Education (OPE) [grants](#) "reaffirm the Department's commitment to equity and educational access across the postsecondary spectrum, geographic region, and college type." The Department's [updated priorities](#) for use in currently authorized discretionary grant programs or programs that may be authorized in the future also include equity and diversity priorities. These include "Priority 2--Promoting Equity in Student Access to Educational Resources and Opportunities," "Priority 3--Supporting a Diverse Educator Workforce and Professional Growth to Strengthen Student Learning," and "Priority 6--Strengthening Cross-Agency Coordination and Community Engagement to Advance Systemic Change." In announcing these priorities, ED notes the role these priorities will play in supporting a vision "based on a fundamental respect for the dignity and potential of every student and their access to educational opportunity."

The President's budget request frames federal investments in education (particularly at the K-12 level) as a

way to “[address](#) the significant inequities that millions of students—primarily students of color—and teachers confront every day in underserved schools across America.” The Administration also proposes addressing equity via efforts to improve teacher diversity, including via the Supporting Effective Educator Development (SEED) program. In the higher education space, the Administration has proposed addressing equity through programs addressing college affordability. While many of its proposals, including “free community college” and tuition subsidies for students at MSIs have not survived the budget reconciliation process, funding for Retention and Completion grants, which would provide funding to address enrollment, retention, and completion, is included in the *Build Back Better Act*.

The Institute of Education Sciences (IES) has a diversity, equity, inclusion, and accessibility (DEIA) effort. At the end of 2020, IES convened a Technical Working Group (TWG) to get [feedback](#) on ways that IES could improve investments focused on DEIA. IES has also shared some demographic [data](#) on applicants to its grant programs to better identify which groups of researchers are underrepresented. “The majority of principal investigators that applied for (78%) and received funding (88%) from IES identified as White, while 22% of applicants and 13% of awardees identified as non-White or multi-racial.” More information on IES’s DEIA efforts can be found [here](#).

Department of Defense (DOD)

In step with the Biden Administration as a whole, the Department of Defense (DOD) amplified its diversity, equity, and inclusion (DEI) efforts throughout the military, civilian workforce, and research enterprise. Secretary of Defense Llyod Austin has vocalized his intentions for the DOD to incorporate DEI in everything it does because diversity fosters innovation and modernization throughout the Department. In the past year, Deputy Secretary Kathleen Hicks established the Deputy’s Workforce Council (DWC) which tackles issues such as improving diversity within the military, as well as DEI within DOD, sexual assault, transgender issues, and workforce development. The Senior Advisor to the Secretary of Defense and Deputy Secretary of Defense for Human Capital—DEI, Bishop Garrison, serves as the key advisor to the DWC.

The DOD [Office of Diversity, Equity, and Inclusion](#), which is organized under the Office of the Undersecretary of Defense for Personnel and Readiness (OUSD P&R), is designed to develop and execute “diversity management and equal opportunity policies and programs” across the Department. In 2020, the DOD Board on Diversity and Inclusion, overseen by the Office of DEI and Chaired by former Air Force Secretary Barbara Barrett, released a [report](#) on the Recommendations to Improve Racial and Ethnic Diversity and Inclusion in the U.S. Military. The report includes six focus areas of recommendations that the DOD has begun to implement in its goal of bringing more diversity and equity within the DOD.

- “Recruitment and Accessions: Strengthen both community engagement and the narrative about military service opportunities during recruiting to attract more diverse candidates.
- Retention: Retain minorities beyond initial commitment and into leadership ranks.
- Barriers: Address barriers confronted by minority members in the workplace.
- Career Development: Improve advancement opportunities (e.g., promotion boards, command selection, professional military education, assignments).
- Organizational Climate: Address command and organizational climate issues that may negatively impact retention of minority members.
- Culture, worldview, and Identity: Promote inclusion of minority groups in military culture and strengthen aspects of individual and cultural identity.”

The Board’s efforts include obtaining and analyzing data on prejudice and bias within the force, developing

educational requirements to educate service members on the signs and effects of unconscious bias, and reviewing the effectiveness of military service equal opportunity offices. While these efforts will cover the entire DOD, there may be future impacts for DOD research labs and DOD research more broadly.

Further, as one of the major federal agency funders of STEM research, DOD provides most of its education funding for graduate students working on research grants. The Department also has a small portfolio of institutional and student programs aimed at strengthening the future defense workforce. In line with these priorities, DOD recently announced an update to its [STEM strategic plan](#) for FY 2021 – FY 2025, outlining its emphasis on diversifying the STEM workforce. The plan's goals aim to orient the Department toward revitalizing and nurturing STEM talent through community engagement, new workforce development programs and funding, and increasing opportunity for groups and individuals who are traditionally underrepresented in STEM programs. The strategic plan will inform future DOD investments in STEM education and workforce development. DOD is expected to develop and release an implementation plan that defines specific actions and corresponding funding opportunities.

Department of Energy (DOE)

DOE has policies in place prohibiting discrimination and harassment by DOE employees and institutions funded by DOE, including academic institutions, small businesses, and DOE national labs. To raise awareness of DOE's policies regarding the prohibition of discrimination and harassment, the DOE Office of Science established a [website](#) that consolidates DOE's policies and procedures as they apply to recipients of financial assistance (e.g., grants and cooperative agreements), DOE national lab contract staff and lab visitors, and DOE federal employees. The DOE Office of Science also updated its [statement of commitment](#) to diversity, equity, and inclusion declaring that it is “fully and unconditionally committed to fostering safe, diverse, equitable, and inclusive work, research, and funding environments that value mutual respect and personal integrity” and that it “does not tolerate discrimination or harassment of any kind.”

The DOE Office of Science also has established an internal working group to review its business practices to identify opportunities to better promote diversity, equity, and inclusion in its award making and awards management processes. The working group made 15 recommendations for improving business processes to ensure they are supportive and inclusive of women and underrepresented minorities in STEM fields; allow for more rigorous tracking of diversity of applicants, awardees, and reviewers; limit and mitigate implicit bias behaviors; and encourage inclusive and professional behaviors in all DOE sponsored activities. DOE is actively working on implementing these recommended actions.

Separately, the DOE Office of Science issued guidance to the 10 national labs it manages to develop strategies for diversity, equity, and inclusion that would require describing their assessment of the lab's DEI challenges, DEI goals, leadership and staff roles and responsibilities, planned actions, measures of progress and accomplishments, and workforce data. Over the last three years, DOE has reviewed the labs' strategies and provided detailed feedback to the contractor leadership through in-person meetings with SC senior management and detailed written feedback.

US Department of Agriculture (USDA)

Secretary of Agriculture Tom Vilsack has made racial justice a top priority for USDA and numerous programs have and will continue to see increased funding throughout USDA via the *American Rescue Plan Act*, and FY 2022 appropriations and the *Build Back Better Act* if passed. Most recently, USDA has taken steps to establish an [Equity Commission](#). The Commission was included in the *American Rescue Plan Act*

and will address historical discrimination in agriculture, and more specifically:

“The Equity Commission will advise the Secretary of Agriculture by identifying USDA programs, policies, systems, structures, and practices that contribute to barriers to inclusion or access, systemic discrimination, or exacerbate or perpetuate racial, economic, health and social disparities. The Subcommittee on Agriculture will be formed concurrently and will report back to the Equity Commission and provide recommendations on issues of concern related to agriculture. Subsequent subcommittees will focus on other policy areas, such as rural community and economic development. The Equity Commission will deliver an interim report and provide actionable recommendations no later than 12 months after inception. A final report will be generated within a two-year timeframe.”

While not explicitly focused on research, the Commission’s Subcommittee on Agriculture will include, “2 university personnel with research and/or extension expertise from minority serving institutions.” Nominations for the Commission were solicited earlier this Fall and the Commission’s launch is expected this month. Updates for the Commission as well as a comprehensive website of USDA activities related to equity can be found at <https://www.usda.gov/equity>.

Economic Development Administration (EDA)

In the spring of 2021, EDA released updated [investment priorities](#) to guide agency investments during fiscal year 2022. As a part of the investment priority update, “equity” was moved to the top of the list and the agency emphasized its commitment to working with underserved communities to achieve sustainable economic development. EDA defines equity as:

“Economic development planning or implementation projects that advance equity across America through investments that directly benefit 1) one or more traditionally underserved populations, including but not limited to women, Black, Latino, and Indigenous and Native American persons, Asian Americans, and Pacific Islanders or 2) underserved communities within geographies that have been systemically and/or systematically denied a full opportunity to participate in aspects of economic prosperity such as Tribal Lands, Persistent Poverty Counties, and rural areas with demonstrated, historical underservice.”

Because EDA applicants are strongly encouraged to align proposed projects with at least one of the agency’s investment priorities across all grant programs, elevating “equity” to the number one investment priority will likely lead to an increase in applications focused on increasing equity through economic development programs and outreach to underserved populations. Support for equity-focused grant and policy making is consistent throughout the Department of Commerce. In recent [remarks](#) at the Interagency Convening on Equitable Economic Growth, Secretary of Commerce Gina Raimondo emphasized the centrality of equity in the department’s decision making and stated the importance of all Americans fully participating in the economy to its recovery from COVID-19.

National Endowment for the Humanities (NEH) and National Endowment for the Arts (NEA)

As highlighted in the FY 2022 President’s Budget Request for the National Endowment for the Humanities (NEH), the NEH has included as one of its five agency priorities “advancing racial equity and support for underserved communities.” Each of the NEH divisions and offices are to incorporate these new Biden priorities into the divisional grant programming, as appropriate. Further, NEH has expanded the scope of *A More Perfect Union Initiative*, an agency-wide initiative to support projects that will help commemorate

the 250th anniversary of the Declaration of Independence, to include “projects that bring the perspective of the humanities to questions of racial justice, gender equality, the evolution of the American landscape, as well as America’s place in the world.” The A More Perfect Union Initiative’s new themes have already begun to be included in 2022 funding opportunity notices.

Similar to the NEH, the National Endowment for the Arts (NEA) has also incorporated advancing racial equity as a priority for the NEA’s programs and initiatives under the Biden Administration. NEA intends to expand Grants for Arts Projects, Challenge America, and Our Town grant programs to reach greater numbers of underserved communities. NEA also intends to create “distinctive grant programs for populations and communities whose opportunity to experience the arts has been limited” such as by ethnicity or disability. The Endowment has also enhanced its engagement with the HBCU community to increase awareness of opportunities and career pathways of the arts.

Appendix: Federal Agency Funding Opportunities to Support Broadening Participation in Research Activities

Presented below is information on funding programs at federal agencies that support broadening participation efforts. Please note that this document does not provide a comprehensive list of all programs.

National Science Foundation (NSF)

Besides the programs highlighted below, NSF encourages, and in some cases requires, partnership with MSIs in many of their center-level funding mechanisms. NSF has a “[funding search](#)” feature that can filter programs on “Advancing Diversity.” There are also a number of programs to encourage broadening participation in STEM education supported through the Directorate for Education and Human Resources (EHR) that are not included below.

Broadening Participation in Engineering (BPE)

“The BPE Program seeks to support not only research in the science of broadening participation and equity in engineering, but also collaborative endeavors which foster the professional development of a diverse and well-prepared engineering workforce as well as innovative, if not revolutionary, approaches to building capacity through inclusivity and equity within the engineering academic experience.” BPE has four tracks: Planning and Conference Grants; Research in Broadening Participation in Engineering; Inclusive Mentoring Hubs (IMHubs); and Centers for Equity in Engineering (CEE). More information available at <https://beta.nsf.gov/funding/opportunities/broadening-participation-engineering-bpe-1>.

Broadening Participation in Computing (BPC)

BPC “aims to significantly increase the number of U.S. citizens and permanent residents receiving post-secondary degrees in the computing disciplines, and to encourage participation of other underrepresented groups in the discipline.” The BPC program supports three categories of awards: Alliances, Demonstration Projects, and Supplements. More information is available at <https://beta.nsf.gov/funding/opportunities/broadening-participation-computing-bpc-0>.

Build and Broaden 3.0: Enhancing Social, Behavioral and Economic Science Research and Capacity at Minority-Serving Institutions (B2 3.0)

The Directorate for Social, Behavioral, and Economic Sciences (SBE) has released its third solicitation for Build and Broaden 3.0 (B2 3.0) which “supports fundamental research at minority-serving institutions (MSIs) and encourages research collaborations with scholars at MSIs.” B2 3.0 aims to expand upon the efforts of B2 2.0, which was released in December 2020 and awarded 20 MSIs to support their research and training efforts, as well as enhance their research infrastructure by improving laboratory capabilities and broadening access to scientific resources. B2 3.0 hopes to meet the research needs of MSIs in part through utilizing the “well-established research infrastructures” of collaborating institutions that can support capacity building within MSIs. SBE strongly encourages proposals directly from MSIs or from partnerships that include MSIs in a key role. More information is available at <https://beta.nsf.gov/funding/opportunities/build-and-broaden-30-enhancing-social-behavioral-and-economic-science>.

Geoscience Opportunities for Leadership in Diversity (GOLD)

“The GOLD Program supports the mission of achieving greater and more systemic diversity by creating a network of champions who can generate greater implementation of evidence-based best practices and resources to promote belonging, accessibility, justice, equity, diversity and inclusion (BAJEDI) throughout the geoscience education, research enterprise and workforce.” More information is available

at <https://beta.nsf.gov/funding/opportunities/geoscience-opportunities-leadership-diversity-gold>.

Mathematical and Physical Sciences Ascending Postdoctoral Research Fellowships (MPS-Ascend)

MPS-Ascend aims to support “postdoctoral Fellows who will broaden the participation of groups that are underrepresented in MPS fields... The program is intended to recognize beginning investigators of significant potential and provide them with experience in research that will broaden perspectives, facilitate interdisciplinary interactions and help broadening participation within MPS fields.” More information is available at <https://beta.nsf.gov/funding/opportunities/mathematical-and-physical-sciences-ascending-postdoctoral-research>.

MPS-Ascend External Mentoring (MPS-Ascend EM)

“The MPS-Ascend External Mentoring (MPS-Ascend EM) program aims to fund an institution (or collaboration of institutions) to provide a mentored career development program specifically designed for two cohorts of MPS-Ascend Fellows funded through the Mathematical and Physical Sciences Ascending Postdoctoral Research Fellowships (MPS-Ascend NSF 21-573, and NSF 22-501) programs.” More information is available at <https://beta.nsf.gov/funding/opportunities/mps-ascend-external-mentoring-mps-ascend-em>.

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

This program is an NSF national initiative to bolster inclusion in STEM leadership, thus facilitating collaboration within the STEM community to diversify the STEM workforce. NSF INCLUDES aims to help improve collaboration within the STEM ecosystem to ensure that underrepresented populations are prepared for and increasingly participating in STEM careers. INCLUDES Alliances are large awards that involve many institutions and partners and can be focused on any part of the STEM pipeline from K-12 education to lifelong learning. More information is available at <https://beta.nsf.gov/funding/opportunities/inclusion-across-nation-communities-learners-underrepresented-discoverers>.

Louis Stokes Alliances for Minority Participation (LSAMP)

This alliance-based program seeks to diversify the STEM workforce by providing support to IHEs to aid them in awarding more STEM baccalaureate and graduate degrees to underrepresented populations. The core of this program is focused on student retention and supports alliances that implement comprehensive and sustainable strategies that result in high graduation rates of minorities. LSAMP is one of NSF’s “alliance-based programs,” which support consortiums made of multiple degree granting institutions and informal science organizations. More information is available at <https://beta.nsf.gov/funding/opportunities/louis-stokes-alliances-minority-participation>.

Alliances for Graduate Education and the Professoriate (AGEP)

The goal of AGEP is to increase the number of historically underrepresented minority faculty in STEM through advancing knowledge about STEM career pathways, evidence-based institutional change programs, and the professional development of underrepresented populations in STEM faculty positions. This program requires interdisciplinary, collaborative teams of institutions of higher education to work together to promote systemic change strategies for underrepresented populations in STEM. More information is available at <https://beta.nsf.gov/funding/opportunities/alliances-graduate-education-and-professoriate-agep>.

Racial Equity in STEM Education Program (EHR Racial Equity)

This program seeks to address systemic racism in STEM through bold and transformative projects that provide tangible positive results. Proposals must be led by, developed, or authentically partner with individuals or communities that are directly impacted by systemic racism. This program is supported by NSF's Directorate for Education and Human Resources (EHR) which seeks to support "bold ground-breaking, and potentially transformative projects addressing systemic racism in STEM." More information is available at <https://beta.nsf.gov/funding/opportunities/racial-equity-stem-education-ehr-racial-equity>.

Department of Health and Human Services (HHS)

National Institutes of Health (NIH)

NIH is committed to broadening participation in the biomedical research workforce across all its institutes and centers. Many funding opportunities focused on broadening participation at NIH are for undergraduate, graduate, and postdoctoral researchers but NIH recognizes there are many issues surrounding expanding diversity in the biomedical research workforce at the faculty level. Through the new UNITE program we may see more funding opportunities focused on increasing diversity at the faculty level.

NIH MOSAIC Postdoctoral Career Transition Award to Promote Diversity for Early Career Faculty

The Maximizing Opportunities for Scientific and Academic Independent Careers (MOSAIC) (K99/R00) award is a career development funding opportunity for postdoctoral researchers from underrepresented backgrounds to transition into independent faculty careers at research institutions. This program will also place the scholars selected into cohorts to participate in mentoring, networking, and professional development activities that are coordinated by scientific professional societies. Applicants must have no more than four years of postdoctoral research experience in order to apply. More information is available on the [MOSAIC program page](#) and the full funding opportunity announcement can be viewed at <https://grants.nih.gov/grants/guide/pa-files/PAR-19-343.html>.

Faculty Institutional Recruitment for Sustainable Transformation (FIRST) Program Cohort

The FIRST program is a NIH Common Fund program created to enhance cultures of inclusive excellence in the biomedical research community. Using the faculty cohort model, the funding opportunity would provide funding to recruit a diverse cohort of early-career faculty and provide activities to promote inclusivity. There have been two solicitations of this award issued with the first solicitation providing funding to 6 academic research institutions. The next solicitation is expected to be issued in 2022. More information is available at <https://commonfund.nih.gov/first>.

Developing Experts for Better Biomedical and Behavioral Research DATA: FAIR and AI/ML-Ready Data

This upcoming program will focus on creating a diverse workforce of specialists with the capabilities to make findable, accessible, interoperable, and reusable (FAIR) biomedical and behavioral research data that is also AI/ML ready. By doing so, this program will aim to advance the field of data science for AI in biomedicine and behavioral science. This program will be comprised of interdisciplinary education and training centers led by a central coordinating center. Education and training centers will include cross-cutting, interdisciplinary, and multi-institutional partnerships that provide "culturally sensitive data and use case" opportunities to a diverse cohort of researchers. The Coordinating Center will work to strengthen networks of centers by facilitating workshops and events. This upcoming program will complement other efforts from NIH's Office of Data Science Strategy (ODSS) to improve the use of AI/ML

in biomedical research, such as the recently launched Bridge to Artificial Intelligence (Bridge2AI) program. More information is available at https://dpcpsi.nih.gov/sites/default/files/Day-1-1130AM-ODSS-Concept-AI-Workforce-one-pager-Biven_508.pdf.

Artificial Intelligence/ Machine Learning Consortium to Advance Health Equity and Research Diversity (AIM-AHEAD)

AIM-AHEAD looks to foster “mutually beneficial and coordinated partnerships” with researchers and underrepresented individuals in the development of AI/ML models. By tapping into the unused potential of the AI/ML field, the program aims to advance the capabilities of AI/ML technology, firstly in the field of electronic health record (EHR) data. By creating a “network of networks” of multidisciplinary partnerships, this program seeks to increase the participation and representation of researchers from underrepresented communities. AIM-AHEAD works to engage these communities through four key areas: partnerships, research, infrastructure, and data science training. More information is available at <https://datascience.nih.gov/artificial-intelligence/aim-ahead>.

National Cancer Institute (NCI) Early Investigator Advancement Program (EIAP)

The NCI Equity Council launched the [Early Investigator Advancement Program](#) to support the advancement of scientists from diverse backgrounds to become independent investigators. The goal of the program is to enhance professional skills, provide mentoring and peer networking, provide guidance through the R01 application process and grow a cohort of emerging independent investigators from diverse backgrounds. This program is open to early-stage investigators and new investigators conducting cancer or cancer related research that have support from their institution to submit an application for an R01 grant in fall 2022. The application for 2022 opened December 1, 2021 and closes on December 31, 2021. The start date of the program will be on March 1, 2022. More information can be found on the program site at <https://www.cancer.gov/about-nci/organization/crhd/diversity-training/eiap>.

Post-baccalaureate Research Education Programs (PREP)

The Postbaccalaureate Research Education Program (PREP) aims to develop a diverse pool of students entering biomedical doctoral programs by helping students finished with their undergraduate degree engage in research-intensive experiences and course work to further their skill development and preparation for graduate school. NIH’s page has a wealth of resources on this program, including a map of participating institutions and an analysis of scholar outcomes from the program. More information about this program can be found at <https://www.nigms.nih.gov/training/PREP>.

Research Supplements to Promote Diversity

This administrative supplement can be used to enhance diversity of the biomedical research workforce by recruiting and supporting trainees from diverse backgrounds to conduct biomedical research. The funds from this supplement can be used on any research that falls within the original scope of the NIH peer reviewed project. The latest solicitation can be found at <https://grants.nih.gov/grants/guide/pa-files/PA-21-071.html>.

Science Education Partnership Awards (SEPA)

SEPA is a program at the National Institute of General Medical Sciences (NIGMS) that supports educational activities to enhance training in the biomedical workforce. Through this funding opportunity biomedical and clinical researchers can form partnerships with preK-12 organizations to provide opportunities for students in underserved communities to consider careers in biomedical research. More information about

this program can be found at <https://nihsepa.org/>. The current funding opportunities for this program can be found at <https://www.nigms.nih.gov/Research/DRCB/sepa/Pages/default.aspx>

Additional Opportunities

A list of diversity related funding opportunities can be found [here](#). This list contains funding opportunities that address broadening participation in the biomedical research workforce and the health of diverse populations.

Health Services and Resources Administration (HRSA)

Area Health Education Centers (AHEC)

The AHEC program establishes academic-community partnerships to improve access to healthcare, increase diversity among health workers, broaden the health workforce, improve healthcare in rural and other high-need areas, and otherwise improve healthcare quality. Schools of medicine and nursing are potentially eligible to apply. More information is available at <https://datascience.nih.gov/artificial-intelligence/aim-ahead>.

Centers of Excellence (COE)

The COE program funds schools of medicine, dentistry, pharmacy, and graduate programs in behavioral or mental health to improve educational and training opportunities that increase racial and ethnic diversity among health professionals. Examples of activities include improving information resources, strengthening clinical education, developing curricula, and incorporating cultural competence relating to minority health and social determinants of health issues. More information is available at <https://www.hrsa.gov/grants/find-funding/hrsa-22-042>.

Scholarships for Disadvantaged Students (SDS)

The SDS program provides funding to medicine, nursing, physician assistant, veterinary medicine, pharmacy, physical therapy, graduate behavioral and mental health, public health, and other health professions programs to provide scholarships to students from disadvantaged backgrounds, including racial and ethnic minority students, with financial need. More information is available at <https://www.hrsa.gov/grants/find-funding/hrsa-20-006>.

Office of Minority Health (OMH)

The HHS Office of Minority Health regularly funds programs aimed at improving education, training, and career development of researchers, providers, and health policy leaders from underrepresented backgrounds. OMH does not administer many annual or recurring funding opportunities and instead often issues ad-hoc funding opportunities on a one-time basis, making it difficult to predict future funding availability. An example of recent funding in this space includes the [FY 2021 Minority Leaders Development Program](#), which aimed to provide future health policy leaders with the skills and competencies needed to advance health equity and address social determinants of health.

Agency for Healthcare Research and Quality (AHRQ)

AHRQ issued a special emphasis notice (SEN) inviting investigator-initiated proposals regarding health

services research to advance health equity. The SEN underscores AHRQ goal of advancing equity in the delivery of healthcare services and reduction of disparities in quality, access, safety, and health outcomes. In addition to research and dissertation proposals, the SEN encourages submission of career development award proposals that “propose developing generalizable health service research skills through projects related to the addressing healthcare equity.” More information is available at <https://grants.nih.gov/grants/guide/notice-files/NOT-HS-21-014.html>.

Institute of Education Sciences (IES), Department of Education

The [Pathways to the Education Science Research Training](#) program exists to “develop a pipeline of talented education researchers who bring fresh ideas, approaches, and perspectives to addressing the issues and challenges faced by the nation's diverse students and schools.” Grants are awarded to minority-serving institutions (MSIs) and their partners that create education research training programs.

Department of Defense (DOD)

National Defense Education Program (NDEP) for Science, Technology, Engineering, and Mathematics (STEM) Education, Outreach, and Workforce Initiative Programs

This program supports projects that create innovative approaches to STEM education, ranging from pre-kindergarten to undergraduate, to support a robust STEM pipeline within the future DoD workforce. One of the aspects of the program specifically focuses on providing meaningful STEM experiences for students and faculty from underserved populations. Through this program, DOD invests in future “STEM talent pools” and supports its STEM mission to “inspire, cultivate, and develop exceptional STEM talent through a continuum of opportunities to enrich the current and future DOD workforce poised to tackle evolving defense technological challenges.” In July 2021, NDEP released a [Request for Information](#) to shape its next competition with a focus on transitioning community college STEM students to 4-year institutions and preparing a diverse workforce through technical training and unique partnerships. NDEP anticipates releasing a new funding opportunity announcement soon, as its release was forecasted on November 30, originally. Additional information on the DOD STEM program is available at <https://dodstem.us/>.

The Office of Naval Research (ONR) Science, Technology, Engineering, and Mathematics (STEM) Program

This program seeks to support ONR’s goal of supporting efforts that improve STEM education, cultivate a diverse and talented STEM workforce, and fulfill Naval S&T workforce needs. This program seeks to fund projects that boost the impact of the STEM education experience and improve the capacity of institutions to offer such experiences. Projects must bolster STEM engagement with students of all ages from diverse backgrounds and provide people with needed Naval STEM skills. More information on the ONR STEM program is available at <https://www.grants.gov/web/grants/view-opportunity.html?oppld=332500>.

Science, Mathematics, and Research for Transformation (SMART) Scholarship Program

This program supports undergraduate, graduate, and doctoral STEM students with the goal of increasing the number of scientist and engineers from all backgrounds at DOD laboratories. SMART is an education and workforce development opportunity for bachelors, masters, and Ph.D. students to gain access to specialized STEM skills and pursue STEM careers at DOD. More information on DOD SMART is available at https://www.smartscholarship.org/smart?id=smart_index.

DOD National Defense Science and Engineering Graduate (NDSEG) Fellowship Program

This graduate fellowship seeks to increase the number of citizens trained in military relevant science and engineering disciplines. With support from the Army, Navy, and Air Force, this program hopes to

encourage post-baccalaureate education up to the doctoral level in subjects that align with DOD research and development (R&D) priorities. In line with DOD’s mission to diversify the STEM workforce outlined in its STEM strategic plan, DOD highly encourages applications from “women, persons with disabilities, and individuals from ethnic minority groups.” More information on NDSEG is available at <https://www.onr.navy.mil/en/Education-Outreach/undergraduate-graduate/NDSEG-graduate-fellowship>.

Department of Energy (DOE)

Minority Education Institution Student Partnership Program

DOE funds a Minority Education Institution Student Partnership Program offers talented high school, undergraduate, and graduate student summer internship positions at DOE Headquarters and its 17 national laboratories. Positions involve scientific research or a focus on policy, business, and government relations. Students receive an 8-10 week assignment to help their careers and develop their potential for future opportunities within the federal government. Students work side-by-side with leading scientists, engineers, and other top professionals to develop professional skills and enhance leadership capabilities. More information is available at <https://doemeispp.org/>.

US Department of Agriculture (USDA)

Within USDA’s extramural research arm, the National Institute of Food and Agriculture (NIFA), there are numerous research and education programs specifically for 1890 (HBCU land-grants) and 1994 (tribal college and university land-grants) institutions. In addition, there is some, though limited, support specifically for [Hispanic Serving Institutions](#).

Within NIFA’s main competitive program, the Agriculture and Food Research Initiative (AFRI), applications from or in collaboration with MSI’s are encouraged. New solicitations reflecting Biden Administration priorities, which may include an increased emphasis on racial justice and equity, have yet to be released and are expected early winter 2022. Current and future AFRI solicitations will be posted here: <https://nifa.usda.gov/afri-request-applications>.

In addition to education and workforce development supported via AFRI, NIFA also administers programs that support undergraduate students, including:

- [Higher Education Multicultural Scholars Program](#): “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.”
- [New Beginning for Tribal Students](#): “...makes competitive grants to land-grant colleges and universities to provide identifiable support specifically targeted for Tribal students.”

National Oceanic and Atmospheric Administration (NOAA)

Many of NOAA’s broadening participation programs involve outreach to local communities about environmental issues including environmental justice and expansion of citizen science programs.

Sea Grant – Environmental Literacy and Workforce Development

While not specifically targeted at enhancing diversity in NOAA’s and the broader climate science workforce, the Sea Grant program has a long history of community engagement and is frequently called upon by the agency to carry out workforce efforts. Sea Grant programs are located in all coastal and Great

Lakes states and are usually located at one of the state's largest public universities. They frequently partner with other institutions and organizations and are good resources for graduate and post-docs looking for new opportunities. The Sea Grant program was funded at approximately \$75 million in FY 2021 and is consistently supported by Congress. More information is available at <https://seagrant.noaa.gov/Our-Work/ELWD>.

Office of Education – Environmental Literacy Program

NOAA's Environmental Literacy Grant Program is a medium sized grant that is released each year with slightly varying topics surrounding the area of environmental literacy and education. The program supports the creation of K-12 curricula, citizen science, and other environmental education development efforts. Recently, the program has had a major focus on environmental justice, risk education in disadvantaged communities, and environmental health. More information is available at <https://www.noaa.gov/office-education/elp>.