

REDUCING THE IMPACT OF BIAS IN THE STEM WORKFORCE: STRENGTHENING EXCELLENCE AND INNOVATION

PRODUCT OF THE
Interagency Policy Group on Increasing Diversity in the
STEM Workforce by Reducing the Impact of Bias



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Appendix B

Summaries of Agency Final Reports

- I. **Agency STEM Workforce** (including National and Federal Laboratories)
 - a. **Implicit Individual** – unintended and unconscious assumptions, often based on stereotypes about gender or ethnicity, which influence individuals’ judgments about other people or their work
 - b. **Implicit Institutional** – institution or agency policy and practices that make it more difficult for members of certain groups to succeed
 - c. **Explicit** – intentional, consciously articulated beliefs that spur discriminatory attitudes and behaviors
- II. **Federally funded Institutions of Higher Education STEM Workforce**
(e.g., Graduate/Postdoctoral Students; Faculty; Staff; Administrators; Institutional Climate)
 - a. **Implicit Individual** – unintended and unconscious assumptions, often based on stereotypes about gender or ethnicity, which influence individuals’ judgments about other people or their work
 - b. **Implicit Institutional** – institution or agency policy and practices that make it more difficult for members of certain groups to succeed
 - c. **Explicit** – intentional, consciously articulated beliefs that spur discriminatory attitudes and behaviors

Sequence of Review:

- Department of Agriculture (USDA)
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- Department of Health and Human Services (DHHS)
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U.S. Department of Agriculture (USDA)

The Department has a wide variety of programs aimed at eliminating **implicit** and **explicit bias** as an **institution** and as **individuals**. A Department-wide Civil Rights Policy statement from the Secretary highlights the standards and commitments to avoid any form of discrimination or reprisal. The Office of the Assistant Secretary for Civil Rights (OASCR) provides overall leadership, coordination, and direction for the Department's civil rights programs. Another Department-wide policy includes mandatory D&I training for all employees, supervisors, managers, and senior executive members. The USDA also outlines hiring goals, career-life balance and integration policies, and many ongoing enforcement and compliance efforts.

Agency specific examples of trainings and initiatives include the Natural Resource Conservation Service's Civil Rights Division (CRD), which is committed to providing EEO/CR training and guidance. The National Institute of Food & Agriculture (NIFA), through its Diversity Council, identifies barriers to employment, retention, promotion, and training. Additionally, the Office of the Inspector General conducts Basic EEO and Diversity trainings that provide an overview of EEO laws and informs employees of their rights and responsibilities regarding federal EEO laws. Several other of the Department sub-agencies conduct similar training that focus on D&I, anti-harassment, non-discrimination, and unconscious bias topics.

Specifically, the U.S. Forest Service utilizes surveys and compliance questionnaires to measure the agency's diversity, and barriers to ensuring a diverse and issue free workforce. The agency champions a new Civil Rights vision to, "inspire everyone to belong, contribute, and succeed." One which is fostered through a strategic framework of capacity building; advice and counseling; accountability; and outreach.

Lastly, the USDA has **implicit institutional** practices for **Federally funded Institutions of Higher Education STEM Workforce and Educational Environments**. OASCR has the delegated authority for enforcing all civil rights laws in both employment and program activities, which include those who receive Department funding. Further, NIFA conducts civil rights and EEO reviews as part as a proactive effort to determine how well participating parties meet the specific obligations of nondiscrimination and EO associated with the wider departmental rules and regulations. NIFA also provides training to Land Grant Universities on Title IX, and D&I programs within the 4-H Programs--ensuring a fair and representative reflection of youth populations in each state. Finally, NIFA civil rights compliance reviews are conducted by following major statutes and Departmental Regulations.

U.S. Department of Defense (DOD)

The DOD has multiple approaches that involve strategic methods in which they promote diversity and inclusion in their workforce. Many of the **implicit individual bias** targeted programs are addressed in the DOD's Diversity and Inclusion (D&I) Strategic Plan 2012- 2017, which emphasizes the President's Executive Order 13583--directing Executive Departments to develop and implement D&I strategies in human resource components. These programs are decentralized and run by Military Departments and Defense Agencies, and run as ad hoc stand-alone sessions that incorporate various D&I topics into supervisory and senior leader mandatory trainings.

Further, the DOD Office of Diversity Management and Equal Opportunity (ODMEO) addresses **implicit institutional** efforts by collaboration with the Military Services to implement D&I plans in outreach programs designed to connect with relevant communities and by expanding awareness of the Department's many education, training, and leadership opportunities for civilian service. For example, the Department of Defense operates a Workforce Recruitment Program for College Students and Recent Graduates with Disabilities (WRP). The WRP engaged over 300 colleges /universities and in 2015 hired 234 WRP summer interns from the 1800 WRP applicants, of which over 40% were STEM majors. OPM has cited the WRP as a model program. Additionally, the DOD led the way in implementing Government-wide training programs such as OPM's Game Changers and The New Inclusion Quotient, which included train the trainer efforts on D&I initiatives. Other programs include a broad range of High Visibility Employment Initiatives that are managed by the DOD's Defense Civilian Personnel Advisory Service (DCPAS), and the Recruiters Consortium, which facilitates and explore efforts to maximize human resource practices in hiring and recruiting for the civilian workforce.

The DOD has developed three specific goals at addressing **explicit bias** within their D&I Strategic Plan 2012-2017. The first is to ensure leadership commitment to an accountable and sustained diversity effort. The second is to employ an aligned strategic outreach effort to identify, attract, and recruit from a broad talent pool reflective of the best of the Nation we serve. The third is to develop, mentor and retain top talent from across the total force. The desired outcome is to attract and retain a competent, qualified and diverse workforce, establish the DOD as an employer of choice, and develop a diverse future generation of organizational leaders.

Additionally, the DOD's current actions to address **implicit individual bias** for students receiving support at **Federally funded Institutions of Higher Education** are taken through a high profile scholarship-for-service program: The Science, Mathematics and Research for Transformation (SMART) Scholarship.¹ The SMART program operates under Title 10 U.S.C., and is a highly competitive program. Ensuring D&I in this program, the evaluation board consists of a diverse panel with participation from Historically Black College and University representatives and other Minority Institutions, and has removed all demographic information from the applications in order to minimize the impact of implicit bias.

Though the Department does not report any **implicit institutional bias** practices, they did; however, report **explicit** activities. ODMEO is currently revising directives with regard to Title IX compliance that will allow the Department to focus on the enforcement requirements, and provide periodic compliance reviews of the DOD's grantees. Lastly, the DOD is convening an in-house working

¹ SMART scholars attend both public and private universities. Many of these universities receive Federal and state support.

group to explore the implementation of these compliance programs, and the collection of demographic data in coordination with the research grant authorities.

U.S. Department of Education (ED)

The ED specifically focuses on **implicit individual bias** through their Fellowship for Race and Equity in Education (FREE). The goal of this program is to build individual and collective will to interrupt racial inequalities within the American education system.

This organization has several trainings that address **implicit institutional bias** as well. For example, all employees are required to complete mandatory EEO and Diversity trainings biennially. Additionally, the Office of Human Resources, Learning and Development Division launched a training course known as Supervisory Essentials-which provides training on unconscious biases in the workplace. The Department also revitalized its Diversity and Inclusion Council in late 2014, and is now analyzing various data surrounding recruiting, hiring, training, promotion, and retention activities that assure equal opportunity to all employees. Other methods include the Employee Viewpoint Survey, new policies and strategies surrounding D&I for all levels of employees, and supporting the many affinity groups within the Department.

The ED has outlined **explicit** practices as well. Some of these include Secretary level messages that address equity at every stage of the organization, and conversations that raise awareness on race relations and inclusiveness at the Department. Other efforts include the Office of Communications and Outreach, and their Special Projects Team that coordinates with other agencies on policies and programs; annual EEO evaluation reports, annual EEO statistical reports of discrimination complaints, and EEO program status reports.

The Department does not report any **explicit** practices for **Federally funded Institutions of Higher Education**; however, their **implicit individual** activities has a Practice Guide: Encouraging Girls in Math and Science. The goal of this practice is to formulate specific and coherent evidence-based recommendations that educators can use to encourage girls in the fields of math and science.

Their **implicit institutional** program includes the Pathways to the Education Sciences Research Training Program, which funds innovative training programs that promote diversity and prepare underrepresented students for doctoral study in education research. This program targets racial and ethnic minorities, first-generation college students, economically disadvantaged students, veterans, and students with disabilities.

In addition, for the implicit institutional bias for Federally Institutions of Higher Education, ED's Office for Civil Rights (OCR) provides compliance and technical assistance to assist schools in their STEM departments as needed. For example, in October 2012 OCR released a PowerPoint presentation on Title IX and access to courses and programs in STEM, which discusses implicit bias, among other topics. In terms of explicit bias, individuals who work or attend institutions that receive Federal financial assistance from ED may file a Federal complaint of discrimination directly with OCR.

U.S. Department of Energy (DOE)

At the **implicit individual** level, DOE has focused on its efforts on addressing workplace concerns raised by employees regarding their workplace interactions and experiences. The DOE has proactive programs and initiatives that include: conflict prevention and resolution; Ombudsman-which promotes the early identification and resolution of issues in order to promote morale and productivity through an informal process; workplace improvement forums; and an anti-harassment program. The DOE also offers Diversity & Inclusion Education and Awareness programs that are offered online and in-class, including implicit bias and the New Inclusion Quotient training. The National Laboratories also have D&I training initiatives. DOE is developing plans and approaches to reducing implicit individual bias through individual professional development trainings, bias interrupters, and building a DOE community that challenges stereotypes and biases in STEM.

DOE's efforts to address bias, both **implicit** and **explicit**, at the **institutional** level is a top down approach. Leadership commitments include the Minorities in Energy Initiative-which strives to increase the participation of groups that have been historically underrepresented in the STEM fields that drive the energy sector. The Women in Clean Energy Initiative-developed to attract, retain, and advance women in the energy field. DOE has also built a strategic direction (DOE Strategic Plan 2014-2018; Objective 12) that demonstrates the agency's commitment to: Attract, Manage, Train, and Retain the Best Federal Workforce to Meet Future Mission Needs, specifically highlighting diversity and inclusion. Further, in 2013, the DOE executed a three year Diversity and Inclusion Strategic Plan (DISP), which outlines three goals: Workforce Diversity; Workplace Inclusion; and Sustainability and Accountability. DOE utilizes Special Emphasis Programs and Employee Resource Groups to engage employees about the importance of building an inclusive workforce.

The DOE National Laboratory system consists of 17 laboratories, each with a core mission and core programmatic sponsor at DOE. Sixteen of the laboratories are operated through Management and Operating (M&O) contracts. In 2015, the National Laboratory Directors Council (NLDC) established an initiative focused on national laboratory workforce diversity and leadership. In addition, each lab prepares its own Diversity Plan and works on STEM and diversity efforts with its programmatic sponsor at DOE, with the Office of Economic Impact & Diversity, and with senior Departmental leadership. These efforts include engaging federal and laboratory employees as role models to broaden participation in the STEM fields and speed mentoring programs that introduce young girls to STEM-related careers. The national labs also partnered with the My Brother's Keeper (MBK) taskforce to introduce students to the energy industry and the STEM professionals leading research for DOE.

For the **implicit institutional bias** for **Federally funded Institutions of Higher Education**, DOE conducts compliance reviews of grantees in STEM programs pursuant to Title IX. The DOE Office of Civil Rights provides compliance and technical assistance to assist schools in their STEM departments. Lastly, in terms of **explicit bias**, individuals who work or attend institutions that receive federal financial assistance from DOE may file a Federal complaint of discrimination directly with the DOE's Office of Civil Rights.

U.S. Department of Health and Human Services (HHS)

National Institutes of Health (NIH)

HHS has 11 operating divisions, each with their unique services, missions, and programs. Many of these operating divisions report **implicit individual** training programs that address implicit bias, diversity, and inclusion in the workplace. Across HHS, there are many **implicit institutional** programs and educational trainings which are also likely to impact individuals personally. Many of these **implicit institutional** programs span across operating divisions and incorporate various forms of implicit bias training through EEO and D&I practices, programs and policies. For example, Day-to-Day D&I Lunch and Learn Series is a HHS-wide program that is designed to “highlight day-to-day best practices and engage employees in making diversity and inclusion a reality in the HHS workplace”. The National Institutes of Health (NIH), specifically, conducts bias training of the scientific directors, search committees—those who are in charge of hiring the scientific workforce. Further, NIH will begin to include bias training for new PI’s, and ongoing efforts to train staff and scientists. The NIH Center for Scientific Review is exploring ways to assess and address possible bias in NIH peer systems through blind reviews, and text mining. The NIH has various other methods like surveys and randomized studies, and even highlights the challenges for evaluating implicit bias in peer review.

Some of the **explicit** HHS wide efforts comprise of mandatory training during onboarding, outreach to minority serving institutions, various employee affinity groups, and routine climate assessment surveys. NIH explicit programs provide undergraduate opportunities through internship programs and mentoring programs like High School Scientific Training and Enrichment Program (HiSTEP), and Graduate Summer Opportunity to Advance Research Program (G-SOAR). Moreover, NIH is diversifying the intramural applicant pool through various new programs and databases. Additionally, HHS Centers for Medicare & Medicaid Services (CMS) have specific efforts to address explicit bias by conducting barrier analyses where underrepresentation or less-than-expected participation exists. For the **Federally funded Institutions of Higher Education STEM Workforce**, HHS does not provide any implicit individual plans. Their **implicit institutional** practices do provide hiring, recruitment, retention, advancement policies, practices and evaluation criteria. Lastly, their explicit efforts are specifically addressed by NIH-supported institutions. The NIH-Funded Workforce consists of a diverse group of programs specifically focused on science driven approaches to diversity. Some of these programs include: Building Infrastructure Leading to Diversity (BUILD)—an experimental program exploring ways to attract a diverse student pool into the biomedical workforce; and the National Research Mentoring Network (NRMN)—which is a nationwide consortium of mentors training individuals from diverse backgrounds. NIH also has family-friendly policies for NIH-grant recipients regardless of institution (e.g., childcare, research service awards, re-entry supplements), and many different grant mechanisms aimed at supporting underrepresented groups (Diversity supplement programs, K and F-grants, CURE and more).

U.S. Department of Homeland Security (DHS)

Since it was established in 2003, DHS has been committed to a diverse workforce and eliminating all forms of **implicit and explicit bias**. DHS is now the third largest department in the federal government and STEM related positions represent about five percent of the total DHS civilian workforce. Pursuant to Executive Order 13583, the DHS Diversity and Inclusion (D&I) Strategic Plan provides the framework to advance diversity and inclusion throughout the Department. Whether in STEM related positions or elsewhere, the diverse backgrounds, experiences, and training of our workforce enable us to identify a wider range of solutions and more effectively engage with the public we serve. Diversity also enables our leaders to enhance decision making by considering the various perspectives and experiences of our workforce. DHS is also committed to **eliminating implicit and explicit bias** and creating fair and inclusive workplaces that value our employees and enable all to reach their full potential.

U.S. Customs Border Protection, Immigration and Customs Enforcement, and the U.S. Coast Guard employ the largest number of STEM professionals across DHS. The Science & Technology Directorate, the Domestic Nuclear Detection Office, and the Office of the Secretary employ the largest percentages of STEM professionals within any of the components.

Pursuant to the DHS D&I Strategic Plan, DHS strives to enhance diversity and inclusion, and **reduce implicit and explicit bias**, through the following three goals: Workforce Diversity/ Strategic Recruitment, Workplace Inclusion, and Leadership Commitment and Management Accountability. With regard to strategic recruitment, DHS uses data-driven recruitment strategies to identify workforce competency, capacity, and diversity needs. Components then build annual recruitment plans to ensure outreach to diverse communities at all levels, including students/entry level, experienced, and senior executive positions. To create more inclusive workplaces and reduce bias within our current workforce, DHS leverages various types of training. For example, DHS provided D&I training for 90 percent of senior executive service (SES) members in the National Capital Region and is finalizing a web-based version for field based SES members. DHS also started to implement the New Inclusion Quotient (New IQ) training to complement the range of EEO training already provided. Additionally, modules in the DHS Leader Development Framework incorporate strategies to leverage diversity and inclusion by treating employees fairly and **reducing bias**. DHS also employs a range of messages from leadership and leadership sponsored activities and programs to enhance D&I and **reduce bias**.

All DHS Operating Components and Offices are committed to advancing diversity and inclusion, and **reducing implicit and explicit bias**. For STEM related positions in particular, DHS Components and offices leverage a wide range of student programs including internships and fellowships as well as partnerships with Minority Serving Institutions and diverse professional associations to recruit diverse talent. Some organizations with a high proportion of STEM related positions, such as the Science and Technology Directorate, also offer innovative and high impact training, development, and assessment tools to reduce implicit and explicit bias.

In STEM related positions and beyond, the Department of Homeland Security is committed to advancing diversity and inclusion, including **reducing implicit and explicit bias**, to secure the nation and effectively engage with the public we serve.

U.S. Department of Interior (DOI)

The DOI runs ten bureaus, each with their own unique service and mission. Some of the reports from these bureaus on **implicit individual** practices include extensive training that engages the total workforce: senior executive members, managers and supervisors, and workforce employees. The U.S. Geological Survey (USGS) has begun adopting practices from other STEM agencies and are initiating the Implicit Association Test (IAT) for managers and supervisors. Each year the Office of Surface Mining Reclamation and Enforcement (OSMRE) conducts training in EEO and diversity and inclusion areas. The Bureau of Reclamation (BOR) has annual workforce training, and sponsors events to promote cross-cultural and cross-gender awareness. The U.S. Fish and Wildlife Service (FWS) also champions yearly trainings on unconscious bias, diversity, generational differences and more.

In the area of **implicit institutional bias**, USGS has an active Diversity Council that implements trainings for all employees on D&I, and has had many successes, some which include: ongoing D&I Toolbox Project; and Women in Science Dialogue conferences. OSMRE has their Minority Higher Education Program (MHEP) that has created partnerships with Historically Black Colleges and Universities, Tribal Colleges and Universities, and Hispanic Serving Institutions. FWS have developed a FY 2015-2019 D&I Implementation Plan (DIIP), is working with non-traditional partners, and is supporting Minority Institutions of Higher Education. USGS and FWS reported that their **explicit** practices are aimed at enhancing EEO, and D&I trainings in a strategically focused manner. FWS utilizes workplace employee surveys to address shortcomings, and determines where improvements are needed.

The USGS, BOR, and FWS state that they have not taken steps to directly impact bias for **Federally funded Institutions of Higher Education**. However, they do provide examples of how they coordinate best practices with their funded partners, and are working on some D&I initiatives.

U.S. Department of Labor (DOL)

The DOL has twenty-five agencies and divisions that include many STEM-related occupations. The Department has numerous policies, projects, and efforts to reduce bias in the workplace, and these practices encompass the whole Department. In the area of **implicit individual bias**, the DOL held a special training called "Blindspot: Hidden Biases of Good People" in 2015, which was aimed at improving the organization's unconscious perceptions when making decisions at all levels.

For **implicit institutional bias**, the Department created a cross-agency Diversity and Inclusion Council to identify and recommend strategies for promoting D&I through trainings and policies. Further, the Bureau of Labor Statistics (BLS) has special emphasis programs, campus ambassadors, and a Human Resource Governing Board (HRBG) that are all geared towards maximizing diversity through awareness programs, participation, and trainings. DOL does not provide any report on their explicit practices or policies.

The DOL's Employment and Training Administration (ETA) provides job training, and worker dislocation programs, along with federal grants to states for public employment services, and other programs. The DOL report includes brief information on their **implicit individual** program known as Strengthening Working Families Initiative (SWFI), which is a grant program created to address education and training barriers for low to middle skilled parents by addressing child care needs for parents seeking education and training, including those in STEM related fields. Their **explicit** program includes the Equal Employment Opportunities in Apprenticeships Notice of Proposed Rulemaking (NPRM), proposing to update EEO rules in Apprenticeships for the first time since 1978 so that more Americans from all backgrounds benefit from this training model.

U.S. Department of Transportation (DOT)

The U.S. Department of Transportation's (DOT) *Ladders of Opportunity* agenda forms the foundation of the agency's work to reduce the impact of bias. The *Ladders* initiative seeks to ensure that all DOT activities, decisions and projects connect people to opportunities, create jobs, revitalize neighborhoods, and are responsive to the needs and aspirations of the communities they impact.

As part of DOT's commitment to ensure that opportunity is institutionalized throughout the Department, Secretary Foxx recently created the position of Chief Opportunities Officer, the first such position in any federal agency.

In order to guarantee the sustainability of its opportunity agenda, DOT conducts regular civil rights training for agency employees on topics such as Diversity and Inclusion, Prevention of Workplace Harassment, Reasonable Accommodation, the EEO Complaint Process, Bullying, and Civility. In 2015, DOT hosted the first in a series of planned diversity/self-advocacy/leadership events entitled, "DOT Planting Seeds: Select Your Destination" and hosts an annual civil rights symposium. DOT's Workforce Quality Division and its Disability Resource Center have held training workshops on: applying for federal jobs, preparing resumes, and interviewing techniques for STEM and other careers. In addition, it has led a mentoring program and math tutoring program for secondary students. Also DOT's "Bring your Children to Work" seminar and expo has had a STEM component to encourage interest in technical transportation careers. The Department's Center for Alternative Dispute Resolution offers services and training courses in Basic Mediation Skills Training, Confliction Resolution Skills, Transformative Mediation, and Negotiation Skills.

The DOT also offers dynamic executive coaching to GS-15 managers and members of the Senior Executive Service to improve leadership performance and employee engagement and partners closely with various Human Resources subject matter experts to acquire knowledge that may impact barrier analysis or drive equity and inclusion concerns. Together, the programs have penned a more transparent, action-oriented EEO and Diversity standard for managers. DOT has a long-standing history of incorporating mandatory SES performance expectations requiring senior leaders to be personally involved in leading and implementing diversity and inclusion, EEO, and civil rights initiatives consistent with applicable laws and executive orders. DOT SES are held accountable to "*proactively lead and engage in activities that demonstrate, sustain, and promote diversity and inclusion*". This mandatory language is included in the "Leading People" critical element of all DOT SES performance plans, which accounts for 20 percent of the executive's performance rating. DOT is renewing its emphasis on enhancing the recruitment process, and is implementing new strategies to improve its practices with a top-down approach. DOT's Executive Resources Board (ERB) requires a recruitment plan for every Senior Executive Service (SES) position, and has recently made additional changes to enrich applicant pools for these critical leadership roles. For example, DOT has adopted the SES/Executive Resume-Based Hiring Method to ensure a more diverse pool of applicants for senior management positions. These changes have led to larger, more diverse candidate pools and alignment of recruitment practices among the entire Department.

In addition, through DOT's involvement in the development of the Strategic Human Capital Plan, DOT has established human capital actions— Broaden the Leadership Pipeline—that will both establish internal leadership pipelines and proactive recruitment programs that go beyond posting jobs on USAJobs. DOT's General Schedule employee's performance plans must include at least one critical element aligned with DOT, OA and/or organizational goals or objectives. Employees whose plan includes the Department's Strategic Goal – Organizational Excellence are held accountable to "develop a diverse and collaborative workforce that will enable the Department to advance a transportation system that serves the Nation's long-term social, economic, security and environmental needs."



Environmental Protection Agency (EPA)

The EPA has demonstrated in its report that they have chosen to adopt **implicit individual bias** training. One such training in 2014 was a first-of-a-kind agency-wide training for the EPA's entire leadership team on unconscious bias and employee inclusion. This training was in-person, interactive session that promoted dialogue amongst all levels of staff and peers. The attendance rate reached almost 90 percent, and surveyed participants afterwards to gauge training effectiveness. They consistently praised it as "Excellent" or "Very Good."

In the realm of **implicit institutional bias**, the EPA highlights the Technical Qualification Board, a review panel to evaluate qualifications and contributions in research, development or expert positions. This panel ensures fair and equitable treatment of potential candidates for promotion, and ensures that treatment and fair opportunities are provided by following the Office of Research and Development (ORD) policies.

Within the EPA Region III, they have established a Hiring and Promotions Safeguard Program to ensure fair and open competitions in recruitment, hiring, and promotions at all GS levels. This **explicit** practice uses a review panel that includes a Diversity Manger responsible for providing advance notice of pending positions at colleges, universities and other diverse organizations. This helps to ensure a diverse applicant pool in all Region III positions, helps supervisors to better understand the hiring process, and ensure fair and open competition. The number of complaints alleging pre-selection decreased after implementation of the program.

National Aeronautics and Space Administration (NASA)

NASA generally takes a holistic approach to mitigate bias in the entire work environment, including STEM and non-STEM organizations. The agency's D&I goals and objectives reflect 1) the concerns that have surfaced at the Agency or Center levels that need to be addressed; and 2) the vehicles or tools already available or that need to be put in place to address the biases at both institutional and individual levels. At the **implicit and explicit individual** level, NASA focuses its efforts on proactive programs and initiatives such as an Anti-Harassment Program (AHP), and a Conflict Management Program (CMP), as well as through its "All In" D&I education and training initiative with sections focused on culture, values, and unconscious bias. NASA also includes EO and D&I components in its Leadership Development Programs and Power and Privilege Training.

NASA's approaches to eliminating **implicit and explicit institutional bias** encompass strategic actions through a top-down approach. The NASA Strategic Plan includes an objective to attract and advance a highly skilled, competent, and diverse workforce. The strategic approach includes overarching, agency-wide frameworks for both D&I and EEO. A key purpose is to capitalize on the synergies between EEO and D&I through explicit emphasis on the overlapping aspects of the two arenas. NASA's approach also emphasizes management accountability, including performance management practices (a new second level review requirement to the Agency's Performance Management Process) and an EO Functional Review Program (FRP). Additionally, the Agency has developed guidance for Special Emphasis Programs (SEPs) and Employee Resource Groups (ERGs), which serve as roadmaps for how to better address EO and D&I issues and concerns. These engagement and communication opportunities also open the door for mentorship programs, creating a "Modern Mentoring Culture," and also using OPM's SES Situational Mentoring program. Furthermore, NASA uses outreach and recruitment tactics built on collaboration between Agency and Center human resources, EO, D&I, Education, and other stakeholder organizations. These programs reach out to an array of underrepresented groups, and minority serving institutions. Lastly, the Agency utilizes workforce data analysis techniques and D&I assessment surveys to identify potential biases in the workforce, measure policy and program impact, and address areas of need.

NASA also outlined its current and planned efforts to reduce bias in **NASA-Funded Institutions of Higher Education STEM Workforce and Educational Environments**. To address **implicit individual bias** in this arena, NASA published on its MissionSTEM website a learning tool: Unconscious Bias in STEM: Addressing the Challenges. This tool helps NASA-funded institutions to better understand bias and its impact in STEM educational environments.

NASA also addresses implicit and explicit institutional bias through its Civil Rights Compliance and Review Programs that are conducted pursuant to federal civil rights laws, and its Civil Rights Technical Assistance/MissionSTEM Website. MissionSTEM is aimed at broadening the reach of NASA's technical assistance efforts to all grant recipients by explaining civil rights compliance requirements, sharing best practices, and describing the various career paths in STEM and how they impact the world.

National Science Foundation (NSF)

NSF is actively addressing **implicit individual bias** through an array of innovative methods. First, NSF participates in the annual Federal Equal Opportunity Recruitment Program (FEORP) report to OPM, which is an important recruiting initiative designed to eliminate underrepresentation of minorities and women in the Federal workforce. Second, NSF produces an annual Merit Review Report that provides raw data on its merit review processes and outcomes. Third, NSF regularly conducts pilots on its merit review systems, including using virtual panelists, which has the potential to reduce bias by removing a range of participation barriers. Fourth, it is planning to conduct several experiments this coming year on implicit bias training and other topics critical to ensuring effective and fair merit review.

To address **implicit institutional bias**, NSF has developed a mandatory course, Training for Managing Diversity, which entails extensive education and training for senior level executives, managers, and supervisors, including on implicit bias. Its Human Resource Management (HRM) division analyzes workforce data in combination with the Federal Employee Viewpoint Survey (FEVS) to effectively understand NSF's current demographic profile and associated job satisfaction. Through these analyses, programs can target the right employee subgroups for attention and aid. NSF ensures equal opportunity in all phases of employment through Management Directive-715, NSF's annual EEO program status report, which identifies potential barriers and defines ways to remove them related to the employment of women, minorities and individuals with disabilities.

NSF has **explicit policies about bias** for its own staff and external stakeholders as well that directly include EEO complaints and compliance. The Office of Diversity and Inclusion (ODI) handles these complaints and encourages the Foundation's commitment to an environment free of harassment and discrimination. NSF's EO and diversity programs promote inclusiveness in STEM enterprises through annual identified target actions, including: 1) attain six of six elements of a model EEO agency; 2) implement at least one ODI action within the NSF's D&I Strategic Plan; and 3) perform two compliance desk reviews under the applicable anti-discrimination laws. The Office of Integrative Activities (OIA) manages the work of the congressionally-mandated Committee on Equal Opportunities in Science and Engineering (CEOSE), which advises NSF on policies and programs to encourage the full participation of women, underrepresented minorities, and persons with disabilities in all levels of the STEM enterprise. In its 2011-2012 report to Congress, the committee challenged NSF to develop a big, bold initiative. NSF responded in FY 2016 with INCLUDES, Inclusion across the Nation of Communities of Learners that have been Underrepresented Discoverers in Engineering and Science. In **federally funded institutions of higher education STEM educational and workforce environments**, NSF uses numerous approaches to address bias. For example, it invests about \$700 million in Broadening Participation programs, including the Louis Stokes Alliances for Minority Participation (LSAMP). NSF also invests in institutional transformation, for example, through the ADVANCE (Advancement of Women in Academic Science and Engineering Careers) program, which increases the participation of women in STEM careers. Lastly, the Foundation's **explicit** external policies include nondiscrimination obligations and compliance with Title IX, both of which are monitored by ODI.

National Oceanic and Atmospheric Administration (NOAA)

U.S. Department of Commerce

In 2015, NOAA’s Senior Executive Service (SES) Retreat was entirely devoted to diversity and inclusion. The retreat tasked SES members to develop specific plans for their respective components of the agency. NOAA has a Diversity and Inclusion Policy and video and is working on an implementation framework. In the video, NOAA Leadership asks employees to “strive for a spirit of inclusion in all that we do.” The Diversity and Inclusion Management Advisory Council was created to operationalize the policy across the agency.

The NOAA Education Council established a Diversity and Professional Advancement Working Group to identify best practices for recruiting and retaining a future workforce. The Working Group has conducted a survey and analyzed information on experiences of underrepresented groups in NOAA. The group is developing a diversity toolkit and building hiring models to improve recruiting of underrepresented groups. The Education Council also established the Underserved Audiences Working Group to connect and improve our portfolio of programs that specifically engage underserved audiences.

Scientists and managers at various levels in NOAA are involved in training students from underrepresented groups through NOAA’s Educational Partnership Program with Minority Serving Institutions (EPP/MSI). EPP/MSI hosts a biennial Education and Science Forum at a minority serving institution to highlight work conducted by students supported by the program.

NOAA’s explicit practices include strict enforcement of EEO policies, which is handled through the Office of Civil Rights. Examples of their **implicit institutional** practices and policies include: required trainings for all employees (e.g., No Fear Act); and career-life balance webinars, telework and alternative work schedules, and other family friendly policies.

U.S. Patent and Trademark Office (USPTO)

U.S. Department of Commerce

Dealing with **implicit individual bias**, USPTO provides several workshops designed to help individuals understand and develop tools to mitigate or overcome bias. These dynamic and interactive of workshops include: training geared towards recognizing and addressing pre-conceived attitudes and beliefs; controlling one's own professional image to mitigate other's unconscious biases; empowering managers with inclusive habits through an initiative called The New Inclusion Quotient training (New IQ Training). In just over a year of deploying the New IQ 85 percent of USPTO managers have participated. USPTO broadly defines inclusion in a mission-focused manner: the ability to include differences in a friendly, flexible and fair way that allows everyone to feel important and uniquely valued. Additionally, USPTO measures the effectiveness of these training programs through the diversity and inclusion index score in the annual Employee Viewpoint Survey.

USPTO is exploring new, more modern ways to highlight diversity. With much of the USPTO's workforce dispersed geographically due to telework and regional offices, the Agency has begun producing high-quality, on-demand videos to observe Special Emphasis Months, and overtly express its commitment to a workforce drawn from all segments of American society. To date, USPTO has debuted videos for Native American Heritage Month, Black History Month, and Women's History Month. By tracking the number of "hits" or views of these videos, the Agency has a metric to determine how widely its diversity and inclusion message is spreading. Further, the Agency has developed a series of videos focusing on diversity in the Patent Examining Corps (the largest office within USPTO), which utilize storytelling and personalization to deliver messages about diversity and inclusion.

USPTO is using various self-assessments designed to signal barriers to equality of opportunity in any **implicit institutional** practices. These include data analysis using workforce demographic data, EEO complaint data, EVS results, and the Equal Employment Opportunity Commission's self-assessment checklist to identify best practices and potential barriers to equal opportunity. The findings inform diversity staff's annual Maximum Impact projects, which are targeted to meet a demonstrated need or barrier. Using this data-driven approach, the organization has implemented multifaceted strategies recruiting and retaining a diverse workforce, from Senior Executive Service (SES) to entry-level employees. As the agency's workforce doubled (2005-2015), the Agency responded to concerns about underrepresentation by establishing new recruitment strategies, and developing active peer support networks, also known as affinity groups.

USPTO also acted to address the lack of diversity in the feeder pool for STEM jobs by establishing an Office of Education and Outreach (OEO) to focus on external education programming, often in conjunction with the Office of EEO and Diversity and voluntary employee organizations. For example, OEO recently partnered with a program called Urban Alliance, which exposes underrepresented groups to STEM careers by providing second-year high school students with the opportunity to work at USPTO, gaining job training and mentoring.

The USPTO also widely disseminates anti-discrimination and anti-harassment policies, which implements a zero-tolerance policy for unlawful harassment and discrimination. In addition, the USPTO proves training to all employees on their rights to equal employment opportunities. The Agency is committed to taking appropriate corrective action such as discipline or training in response to such explicit acts. Because the USPTO does not engage in grant-awarding activity to institutions of higher

education, it does not have specific practices with respect to Federally funded Institutions of Higher Education.

Smithsonian Institution

As a trust instrumentality of the United States, the Smithsonian does not fund institutions of higher learning; however, as an educational institution whose mission is the increase and diffusion of knowledge, the Smithsonian Institution is active in addressing challenges in STEM occupations through the Smithsonian Science Education Center and other Smithsonian units. Also, as a not for profit 501(c)3 entity, the Smithsonian receives grants and contracts from federal agencies and private organizations and any terms and conditions addressing this topic will be made applicable to the unit receiving funding. The Institution also often serves as a convener for governmental, non-profit and private entities to address a broad range of issues such as this.

The Institutions' **implicit individual** practices include the National Museum of Natural History (NMNH) Early Youth Engagement through Science (EYES), which supports Latino middle-school students, as well as students from underrepresented populations. Additionally, at the NMNH, an ongoing effort for Children Investigating Science with Parents Afterschool (CHISPA)-funded by NSF-aims to serve the whole learning ecosystem of a K-5 student, providing resources for parents to support their students' interest and exploration of areas in science. For educators, the Smithsonian Science Education Center (SSEC) provides teachers with extensive training in order to support and encourage STEM learning.

Other programs within SSEC have captured the attention of national and international experts in both developed and developing countries. One such partnership with Shell Oil Foundation and the National Science Teachers' Association addresses stereotypes about gender and ethnicity, which serves as a barrier in the advancement of STEM teachers of color serving in leadership positions. Further, the Smithsonian Office of Fellowships and Internships provides opportunities for students to engage with scientists, and prides itself on having a diverse collection of participants.