



Albert Einstein

Distinguished Educator Fellowship Program

Summary Report
2021-2022 Fellowship Year



Prepared by the U.S. Department of Energy, Office of Science
Office of Workforce Development for Teachers and Scientists

<https://science.osti.gov/wdts/einstein>

Albert Einstein Distinguished Educator Fellowship Program

Program Overview

The Albert Einstein Distinguished Educator Fellowship (AEF) Program provides a unique opportunity for accomplished K-12 educators in the fields of science, technology, engineering, and mathematics (STEM) to serve in the national education arena. Fellows spend eleven months, beginning in September of each year, working in Federal agencies or in U.S. Congressional offices, bringing their extensive knowledge and classroom experience to education program and/or education policy efforts.

Overview of the 2021-2022 AEF Fellows

2021-2022 AEF Participants	
Number of total AEF Fellows	18
Number of high school teachers	9
Number of upper elementary and middle school teachers	9
Number of states represented by the Fellows	12
Number of Fellows who have been teaching more than 10 years	14

Table 1. Summary of the 2021-2022 AEF Fellows

Hosting Federal Agencies and Congressional Offices for the 2021-2022 AEF Fellows

Federal Agency Placements
U.S. Department of Energy (1 Fellow)
U.S. Department of Defense (3 Fellows)
U.S. Geological Survey (2 Fellows)
U.S. Library of Congress (2 Fellows)
National Aeronautics and Space Administration (2 Fellows)
Smithsonian National Air and Space Museum (1 Fellow)
U.S. Department of Interior (1 Fellow)
U.S. Department of Homeland Security (1 Fellow)
Congressional Office Placements
Representative David Trone (MD-6)
Representative Jamaal Bowman (NY-16)
Representative Raul Grijalva (AZ-7)
Representative Donald Norcross (NJ-1)
Senator Jacky Rosen (NY)

Table 2. Hosting Federal Agencies and Congressional Offices

*AEF Congressional Office placements are sponsored by U.S. Department of Energy

Program History

The AEF Program, now in its 32nd year with 357 alumni, operates under the Albert Einstein Distinguished Educator Fellowship Act of 1994 (Pub. L 103-382). The legislation states that the Department of Energy (DOE) administers the AEF Program including recruitment, application and selection, and overall management.

The AEF Program is designed to meet the following objectives identified in the legislation: 1) to provide outstanding elementary and secondary STEM education teachers the opportunity to bring to Congress and appropriate branches of the federal government the insights, extensive knowledge, and practical experience of classroom teachers; 2) to increase the understanding, communication, and cooperation between Congress and Federal agencies; and 3) to increase the understanding, communication and cooperation between the federal government and the STEM education community.

The Federal science agencies that host Fellows have as part of their goals to support STEM education to help ensure a future workforce is sufficiently prepared to contribute to the emerging science and technology fields. Fellows are placed in education offices where they provide insights during project conceptualization and assistance with established programs. The Congressional offices that host Fellows, sponsored by DOE, have either a strong STEM portfolio or want to increase their portfolios within their offices.

AEF Program Scope

Fellowship Support

All Fellows receive a monthly stipend of \$7,500, which is paid by the sponsor offices. Additionally, Fellows can request to receive up to \$5,000 for travel and fees associated with their professional development during the Fellowship. All current benefits for are available on the program website: <https://science.osti.gov/wdts/einstein/Benefits>

Application

Interested educators can access the application from mid-August through mid-November. The on-line application is located on the DOE website at: <https://science.osti.gov/wdts/einstein/How-to-Apply>

The application consists of three sections:

- Questions highlighting educational background, professional experience, professional activities, awards, and publications;
- Five essay questions; and
- Three letters of recommendation, one being from a school district official.

The responses to the questions on the application are used to assess the eligibility of the application. While most of this information is fact-specific, it provides a way to make both a quick and qualitative evaluation when compared with the responses in the essays.

Application Review and Selection

The application review, selection, and placement process is communicated in detail and posted on the AEF web page: <https://science.osti.gov/wdts/einstein/How-to-Apply/Application-Review-and-Selection-Process>

Positions Descriptions

Host offices interviewing selected candidates, the semi-finalists, must have, in advance of the interviews, one-page position descriptions that detail the workload requirements and planned responsibilities within the office. The semi-finalists can then gauge their interests and capabilities in the positions and determine the best fit for their individual needs.

Contributions to the Host Offices

Fellows are regularly recognized for making significant contributions to their host offices. Most of this is managed and guided by position descriptions under the guidance of host office supervisors.

The Fellows in each cohort are usually a collaborative group and are encouraged to share ideas and work together to expand upon tasks and inevitably deliver projects beyond expectation. Position accomplishments are observed by program management during the four required “reports and presentations” due throughout the Fellowship.

Fellows’ Professional Development

Fellows are required to establish individual professional development plans designed around high-level goals that combine to advance the knowledge and skills of the Fellows. These plans help the Fellows identify goals and objectives and establish “actions” that will contribute to the achievement of the high-level goals.

The professional development resources available to Fellows from science agencies, STEM policy experts, advocacy organizations, and other STEM education stakeholders may not exist at this level at any other time in their career. The establishment of a plan with milestones will help ensure a valuable experience both within and outside their host offices and into the future.

Outcomes

Fellows complete the AEF Program with a portfolio of opportunities to share with colleagues and students. The portfolios include information on undergraduate and graduate internships, scholarships, the national research infrastructure supported by the Federal government, how to compete for grants, the latest research on advancing STEM education, and opportunities that inspire students towards STEM careers.

The experiences gained are personally and professionally valuable, and subsequently shared with colleagues. By gaining a clearer understanding of educational issues at the national and local level, Fellows become recognized leaders for the ability to convey substantive information and influence the future of STEM education.

**Albert Einstein Distinguished Educator Fellowship Program
Accomplishments of the 2021-2022 Fellows**

AEF Fellow	Background	Fellowship Placement
<p>Chanda Jefferson</p>	<p>South Carolina AP Biology, Life Sciences, STEM Lead, High School</p>	<p>Office of Congressman David Trone, Maryland’s 6th Congressional District</p> <p>Chanda served as a policy advisor for several critical issues including K-12 education, STEM, veterans affairs, broadband, science and technology, telecommunications, and DEI. She took an active role in developing and promoting legislation to address constituents' concerns most notably addressing issues regarding educator mental health, restoring benefits to defrauded veterans, and rural broadband expansion. Chanda prepared briefings and presentations for Representative Trone on various topics, including community project funds, mental health in the African- American community, and expansion of school-wide mental health supports. She also prepared, planned, and attended Congressional District visits with members of the U.S. Executive Branch, including Secretary Denis McDonough, Secretary Marty Walsh, Secretary Deb Haaland, and Secretary Miguel Cardona.</p> <p>As the manager of Representative Trone’s K-12 education portfolio Chanda authored a letter to the Maryland Superintendent of Education expressing gratitude for sharing thoughts about the Blueprint for Maryland, community schools expansion, teacher recruitment and retention, and mental health solutions for education. She also planned and executed a special ceremony honoring Maryland’s Congressional award recipients, the highest honor a member of Congress may bestow upon youth civilians.</p> <p>Chanda developed an Educator Mental Health policy agenda for the office and organized a Congressional listening session featuring the 2020 and 2021 National Teachers of the Year. The purpose of the session was for members of Congress to learn about education during COVID-19, listen to teachers share ideas about mental health needs in schools, and gather information for new education policy ideas. The listening session led to the introduction of the <u>Educator Mental Health Awareness Week Resolution</u>, which was authored by Chanda and others. Chanda also introduced the <u>Restoring Benefits to Defrauded Veterans Act</u>, which helps defrauded Veterans and their families receive support and benefits.</p>
<p>Christine Hirst Bernhardt</p>	<p>California High School, astronomy, Earth, honors astronomy, chemistry</p>	<p>Office of Congressman Raul Grijalva, Arizona’s 3rd District,</p> <p>Christine served as a legislative assistant with a comprehensive portfolio which covered issues of K-12 education, womens’ health, native americans, gun control, communications, and science and technology. In this capacity Christine regularly met with groups to discuss their needs and congressional asks. She connected groups to available resources and advocated on their behalf. Throughout the year, Christine has worked on the full spectrum of legislative affairs; she conducted extensive research and</p>

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	<p>engineering</p> <p>College astronomy, physical science</p>	<p>developed original legislation in collaboration with members of the Natural Resources committee aimed at the oil and gas industry. Christine developed all supporting materials and contacted organizations to obtain feedback and endorsement. She also introduced a bill which had been in development for years focused on providing a state certified school librarian for every school in the Nation. This was a collaborative effort between Christine and the American Library Association. Christine regularly flags issues and summarizes legislation as a member of the legislative team in order to inform voting decisions.</p> <p>Christine elevated and amplified the multifaceted role of education through her writing in the office of the Congressman. Christine and Dr. Kama Almasi co-authored a <u>policy paper</u> which was published in the Journal of Science Policy and Governance focused on the need for equitable science instruction in elementary school for a democratic society. She wrote an <u>Op-Ed</u> in the name of the Congressman on the importance of Public Service Loan Forgiveness for teachers, a <u>letter</u> to the Governor of Arizona and to the US Treasury regarding the misuse of COVID funds in keeping schools open, she wrote a speech for the Congressman following the shooting in Uvalde for Moms for Action, and developed talking points on various topics. Christine has progressed to an advanced Spanish speaker and can carry conversation with native speakers, which is a skill that assists in her office and will transfer immediately to the needs of teaching in California.</p>
<p>Holly Miller</p>	<p>Indiana</p> <p>Middle School General Science</p>	<p>Office of Senator Jacky Rosen Nevada</p> <p>Holly served as an education policy expert in the office of US Senator Jacky Rosen of Nevada. Holly had a comprehensive portfolio that covered issues of K-12 education, mental health, broadband services, strong IT, and science and technology. Through her work with Team Rosen, she participated in the STEM Task Force. This committee provided updates on various initiatives in the office related to STEM education and the workforce. Holly wrote and researched educational policy as well as extensive memos, summaries, Dear Colleague letters, and hearing questions for the HELP committee on school reopening. Some titles include: Improving Data Infrastructure to Meet Student and Learner Information Needs; WORC PROGRAM AND NNSA PROPOSED PARTNERSHIP; Letter to the Institute of Education Sciences (IES) and the National Science Foundation; Letter for JR to sponsor companion legislation for HR 5581, Arts Education for All; Summary of BBB ed and labor sections; Summary of Modernizing USDS: Cultivating Diversity in the Future STEM Workforce.</p> <p>She worked with leaders in the STEM education field, including the American Association of University Women (AAUW), Teach for America, STEM Connector, STEMEd Coalition, Girls Who Code, Girl Scouts, Girls Inc, Anita B, and many others. In this capacity, Holly regularly met with groups to discuss their needs and congressional asks. She connected groups to available resources and advocated on their behalf. Throughout the year, Holly worked on the full spectrum of legislative affairs; she conducted extensive research and helped developed original legislation.</p>

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		<p>Most notable of her accomplishments was the development and launch of the Senate Women in STEM caucus. This bipartisan group is dedicated to advancing women’s participation in science, technology, engineering, and math careers. The caucus provides a forum for discussion about how to expand access to STEM education for women and other underrepresented populations and increase women’s participation in STEM-related fields. It was launched on November 8, 2021. The first event was held on February 16th, 2021. Panelists and moderators were recruited to focus on the “State of Women in STEM,” which allowed us to take stock of where we are at that stage of the COVID pandemic, with women having left the workforce in large numbers. This bipartisan caucus brought together diverse voices to develop and promote policies and programs that support women and girls in STEM. The caucus also raised awareness on how women’s underrepresentation in STEM classes and jobs limits the United States from achieving our full economic potential and fully addressing some of the most pressing challenges of the 21st century.</p>
<p>Joel Truesdell</p>	<p>Hawaii</p> <p>Hawaiian Culture Based Chemistry, High School</p>	<p>United States Geological Survey</p> <p>Joel developed a relationship between the USGS Environmental Water Research Group and the Tuscarora Nation. The Tuscarora Reservation has had a very high incidence of cancer among the tribal members. With whole households suffering from this disease, the Environmental Team will begin testing the well water in the early fall for 500+ substances known to be harmful. Joel will continue to strengthen the relationship between the Tuscarora Nation and the United States Government. Through Dr. Shakiyya Bland, Joel has established a relationship with the Bureau of Indian Education Leadership group. Joel was a presenter in two out of three webinars that Dr. Bland facilitated for the Bureau of Indian Education Leadership on Native Culture Based STEM best practices. Joel also worked with Dr. Bland on the implementation of her proposal, "Developing and Sustaining the Leadership Path of Culturally Responsive Education," a collaboration including BIE and Northeastern University.</p> <p>Joel organized a Native summer camp for youth in the Grand Canyon area as requested by the Assistant Secretary of the Interior. The USGS/Tuba City Middle School Partnership: Mother Earth - Resilience camp ran from June 20 - 26 with 20 eighth graders participating. The camp was open to all students. The focus of the camp was to have the students learn the USGS science not only through a Native cultural lens but also as it relates to community concerns as well as climate change effects. At the end of the camp, the students produced an educational plan for success in high school, a speech on the effect of climate change on an area in the community, and a letter to the Secretary of the Interior expressing a community concern relative to climate change. The camp evaluations by the students are incredible. This is one of the few camps that is truly a Native camp vs a camp for Native students.</p>

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<p>Kama Almasi</p>	<p>Oregon</p> <p>Biology, Environmental Science, Chemistry, Integrated Science, Anatomy & Physiology, STEM, Algebra, MS Math</p>	<p>Office of Congressman Jamaal Bowman, New York’s 16th District</p> <p>Dr. Kama Almasi served as a Grants Specialist and Science Legislative Aide in Congressman Bowman’s office. She developed a grants program for NY-16, writing a Grants Manual for district entities, and Internal Grants Manual for the office, and a monthly newsletter on open and forecasted federal grants. She liaised with district nonprofits, elected officials, and small businesses and established a Violence Prevention Grants Pod, composed of small, high-impact, non-profit organizations that work to reduce violence among youth. Kama also held a webinar for district organizations and local governments on getting started with federal grants.</p> <p>In her capacity as a Science Aide, Kama prepared Congressman Bowman for committee meetings by summarizing witness testimonies and hearing charters and writing questions for the Congressman to ask witnesses. She also summarized and flagged important bills and amendments prior to bill mark-ups in the House Committee for Science, Space, and Technology.</p> <p>Kama wrote a letter to President Biden and the Acting Director of the Office of Science and Technology Policy, urging them to elevate science in elementary school. This letter followed publication of a policy paper she co-authored with Christine Hirst-Bernhardt on the subject, and mirrored the recommendations of National Academies of Science, Engineering, and Mathematics’ <i>Call to Action</i> report. She also worked on a piece of legislation on this topic that aims to increase culturally responsive science in elementary classrooms.</p> <p>As a member of the Legislative Team, Kama regularly made voting recommendations prior to session weeks, summarized science and natural resource portions of large scale bills, such as Build Back Better, Infrastructure Investment and Jobs Act, and the COMPETES Act. She worked on Community Project Funding and wrote position and individual mail responses to constituents writing to the Congressman about policy issues.</p>
<p>Kate Kogge</p>	<p>Virginia</p> <p>STEM/Science Middle School</p>	<p>Smithsonian Institution’s National Air and Space Museum - Education Department</p> <p>Throughout her time at the National Air and Space Museum, Kate engaged in educational outreach events, initiatives, and exhibits alongside her colleagues. She began her fellowship early by attending the Teacher Innovator Institute in the summer of 2021, meeting STEM educators and engaging virtually in programming and activities. Since then, she has been working with her mentor to revitalize the program through updating the application process and welcoming teachers on-site for the first time since 2019. She is excited to see this program through and continue the work throughout the entirety of TII in July 2022.</p> <p>Outside of TII, she led Professional Development Live! at the museum, a large-scale virtual program for educators and museum specialists across the country. She created programs and interdisciplinary projects related to weather data, passenger flight, and aircraft carriers for K-12 educators. For each presentation, she worked with interns,</p>

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		<p>curators, and compelling guest speakers to bring STEM to life, even in the virtual environment.</p> <p>Kate was also a member of the Discovering Our Universe exhibit team, scripting the latest iteration of this powerful exhibit in the National Mall building. She provided an educator’s lens as the team wrote (and re-wrote) this challenging and fascinating content for the public.</p> <p>Outside of NASM, Kate developed a pilot program for an environmental initiative within the consortium called <u>The Optimologist Project</u> - an opportunity for K-12 students to connect with researchers and scientists throughout Smithsonian’s Conservation Biology Institute. The first round lasted nine weeks with students in Albemarle County, Virginia, and students had the opportunity to learn about conservation and animal tracking within their region.</p>
<p>Kelly Day</p>	<p>Indiana</p> <p>Mathematics Middle School</p>	<p>U.S. Department of Energy (DOE) in the Office of Science - Workforce Development for Teachers and Scientists (WDTS)</p> <p>Kelly has been an advocate for math and STEM education throughout her career, and during her time at the DOE she has grown as a STEM educator and leader. Kelly has taken on many leadership roles within the WDTS office, including developing resources for and helping organize the various elements of the National Science Bowl®. Kelly has been a pivotal part of this highly esteemed nationwide program that provides thousands of students the opportunity to pursue their passions for science. Because The National Science Bowl® has shifted to an online format due to COVID restrictions, Kelly has helped create the digital resources and training content for the 100+ regionals across the country. Kelly has also hosted several online training sessions for coaches, volunteers, and regional coordinators to help everyone around the nation with the virtual transition. Through her work with the Science Bowl, Kelly has been able to develop relationships with STEM education leaders at several of the DOE National Labs and has also been working with other STEM Education personnel to develop K-12 lessons/curricula. Kelly also serves on the Interagency Working Group dedicated to pursuing convergence education in STEM while promoting transdisciplinary learning across federal platforms.</p>
<p>Laura Larkin</p>	<p>California</p> <p>Mathematic High School</p>	<p>Department of Defense - Office of the Undersecretary of Defense, Research & Engineering, Defense Laboratories & Personnel/DoD STEM</p> <p>Laura provided an educator’s perspective in the evaluation of proposals, programs, and personnel in the DoD’s k-16 STEM education, outreach, and workforce development portfolio. For the National Defense Education Program (NDEP), she reviewed proposals for the external Call For Proposals and as part of the internal NDEP team, she revised the proposal evaluation rubric, performed compliance checks, assigned reviewers, analyzed scores, assisted in award announcements and provided grant monitoring. She evaluated personnel for the STEM Advocate of the Quarter (SAQ) and scholarship applications for the SMART program. A major part of Laura’s efforts were with the Defense STEM</p>

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		<p>Education Consortium (DSEC) program where she evaluated DSEC partners' teacher professional development offerings. Laura also provided program liaison support for the DoD's partnership with FIRST robotics and monthly professional development planning for the DSEC STEM Ambassador program. She attended DSEC-sponsored conferences and webinars, providing feedback for the office. Laura represented the Department of Defense on the Interagency Working Group - Inclusion in STEM (IWGIS) and the Interagency Working Group - Computational Literacy (IWGCL) where she categorized responses from a Request for Information (RFI) from the public. She serves as the Executive Secretary for IWGIS where she is responsible for minutes, agendas, correspondence and assisting with presentations.</p>
<p>Lesley Anderson</p>	<p>California, Chemistry, Biology, Environmental Science High School</p>	<p>Library of Congress, Professional Learning and Outreach Initiatives Office</p> <p>Dr. Lesley Anderson designed a webinar series that integrated hands-on STEM demonstrations with Library of Congress primary sources. Webinars were broadcast to educators across the country from a variety of backgrounds. In one webinar, Lesley demonstrated the environmental impacts of the Deepwater Horizon oil spill using primary source analysis to look at Library of Congress maps and comparing this to an oil and water mixtures chemistry lab. Lesley presented workshops at NSTA (National Science Teachers Association) and the AFT's Share My Lesson Conference to share primary source analysis with STEM educators. She also presented a workshop and was the keynote speaker for VSELA (Virginia Science Education Leadership Association). She also hosted the Library's booth at both the Noyce Scholars annual meeting and the Library's National Book Day. Lesley also wrote short articles for the NSTA journal and published a number of blog posts for the Library of Congress ranging on topics from historic maps of Antarctica to fatal ballooning accidents. In a final project, Lesley worked with a science historian colleague to hunt down some primary sources from author, Homer Hickam, who described writing letters to Dr. Von Braun in his book, Rocket Boys, that inspired the movie October Sky. The letters, written by Homer and his mother, had been kept in an offsite storage location and were very touching to Mr. Hickam, who had never before read what his mother wrote to Dr. Von Braun.</p>
<p>Mike Vargas</p>	<p>Arizona Physics, High School</p>	<p>Department of Defense, Office of the Undersecretary of Defense for Research and Engineering, Manufacturing Technology Program</p> <p>Mike's duties included workforce development and becoming a subject matter expert in the Department of Defense manufacturing industry institutes. Mike attended numerous meetings, workshops, and training in regards to the MII institutes, and the EWD ManTech Team.</p> <p>The purpose of the 9 military manufacturing institutes is to work together to streamline their efforts in order to make it easier for workers to train and get recruited to work in</p>

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		<p>their specific industries. This type of collaboration can range from best practices to sharing regional workforce data. The best way to describe this effort is to think of ways we can all - work together, still stay autonomous, and yet stay competitive.</p> <p>Mike worked at helping BEST (Building Engineering and Science Talent) on getting the last round of data collection on the MIIs sorted and categorized in such a way that work could begin on creating a narrative that will further promote collaborative touchpoints within the consortium and get projects off the ground more quickly and smoothly. The goal being to “understand” the problems in order for them to become “actionable problems” for later regional interventions.</p> <p>Along with working on the collaboration network with the MIIs, Mike was assigned to multiple working groups with the goal of finding solutions to problems affecting EWD issues. These WGs include the following: Partnerships, Equity, Alliances, and Talent. Each WG is responsible for looking deep at their topic and finding ways to engage the rest of the institutes in these efforts that can help everyone.</p> <p>Upon completion of the DOD strategic framework for manufacturing technology (December 2020), Mike was involved with the communications strategy that is being developed to help get the word out on the need for EWD programs and the efforts underway by the MIIs.</p> <p>Mike participated in the Strategic Partnerships Interagency Working Group, where he contributed to Federal strategies to enhance STEM Ecosystem efforts and increase student participation in Work-Based-Learning experiences, such as internships and apprenticeships. Mike also served as reviewer for the DoD National Defense Education Program (NDEP) grant proposals, as well as participated in (DESEC) Defense Science, Technology, Engineering, and Mathematics (STEM) Education Consortium meetings.</p> <p>Along with Mikes work at DOD ManTech, he also worked part time for the new Air Force K-12 STEM Office. His role there was to help with getting the program up and operational starting with the basic needs of founding a new organization.</p> <p>Lastly, Mike was tapped to help lead the Space Force’s first annual educational outreach mission “DeSTEMber” event which involved all 50 states and over 15K students across the country. Mike had a pivotal role in organizing and connecting guardians to teachers across the country in one-on-one classroom engagements.</p>
Michael Guarraia	<p>Maryland</p> <p>General Science, Physics, Engineering, Computer</p>	<p>National Aeronautics and Space Administration (NASA) - Science Mission Directorate (SMD)</p> <p>Michael’s work focused on broadening participation in STEM. In this capacity, Michael was responsible for developing curricular resources to accompany NASA Citizen Science projects, and to make NASA assets more accessible to educators. Michael also contributed to an effort to modernize a digital platform for distributing Science Mission</p>

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	Science, Middle School and High School	<p>Directorates learning resources. In a continuation of efforts started in 2020, Michael worked with AEF alum Rachael Arens to co-plan and co-host the 3D Thursday Webinar for Rural Educators. Each month, the pair brought science education topics of interest to rural educators around the world to build community and address topics important to them. Michael also worked as a point of contact in the planning of community events centered around the first images from the James Webb Space Telescope. Lastly, Michael represented NASA at the Vice President’s Residence in a collaboration between the Office of the Vice President, NASA, and Disney.</p>
Selene Willis	Florida, Middle School STEM	<p>National Aeronautics and Space Administration (NASA) - Science Mission Directorate (SMD)</p> <p>Selene spent her year at NASA supporting several projects connected to her interests in broadening participation in STEM for marginalized and underrepresented students and supporting NASA’s website integration initiatives. She served as an education consultant for a geoscience undergraduate internship, a curriculum developer for a remote sensing educational program, and completed a literature review on the effectiveness of graphic novels in facilitative STEM learning. Selene also worked as a point of contact in the planning of community events centered around the first images from the James Webb Space Telescope</p> <p>Throughout her year, Selene presented her research on Justice-Centered STEM education at The National Association for Research in Science Teaching (NARST) and The Science Educators for Equity Diversity and Social Justice (SEEDS) conferences. She completed her term as a member of the Association for Science Teacher Education (ASTE) Graduate Forum as Vice President. She also presented two workshops at the Winter Institute of the Center for Teaching and Innovating Learning in St. Petersburg, Florida. As a result of her commitment to Equity and STEM Education towards the end of her fellowship, Selene was appointed to NSTA’s Equity And Ethics Committee, where she will complete a three-year term.</p>
Sergio deAlba	California Sixth Grade	<p>United States Geological Survey</p> <p>Sergio de Alba served with the Youth and Education in Science, focusing on developing academic units for the Water Science School at the U.S. Geological Survey (USGS). Sergio was tasked with going through the vast wealth of research and resources compiled by the USGS and utilizing these tools to develop a curriculum for the new format implemented on the WSS site.</p> <p>Sergio assessed and evaluated the current educational tools provided by the USGS Water Science School and provided recommendations. Modifications were made to improve the efficacy of the WSS site's approach. Sergio created four units geared toward fourth-</p>

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		<p>sixth grade students focused on the four topics considered of great importance by the USGS. Each unit is designed to be taught over a month, with a lesson being given each week. Each lesson focuses on helping the next generation understand that water is crucial to our survival. The units are designed to assist students in understanding how we historically settled near bodies of water due to this fact. As students learn about the science of water, its uses in life, and its role in the development of culture, they are tasked with thinking about what they can contribute as STEM students. What can they design to continue the growth of innovation and the continued prosperity of Americans while conserving our natural resources?</p> <p>Throughout the units, students will find different focuses for the stem lessons. The focus was to create opportunities for students to think and understand that their ideas count. The USGS WSS wants students to think of themselves as future leaders who will solve these STEM-centered problems. The aim was to help students realize that they can improve these issues with their unique experience and knowledge. Each lesson intends to connect relevant aspects of regional and state hydrologic sites and link them to the four chosen USGS water topics. Each unit includes the described four lessons designed to provide relevance to a region or state while increasing engagement. These units can be used to learn about local water issues and understand the differences and similarities faced in other parts of our country.</p>
Shakiyya Bland	Kansas Instructional Learning Coach District Mathematics Curriculum Coach, High School	Department of the Interior -Office of the Secretary Dr. Bland created a strategic plan for implementing Executive Order 14020, "Establishment of the White House Gender Policy Council," for the Department of the Interior (DOI). She coordinated four working groups composed of senior political and career leaders. Shakiyya consulted with the White House Gender Policy Council to support the Biden-Harris administration's implementation of gender equity and equality policy within the DOI. As a member of the Diversity, Equity, Inclusion, Accessibility (DEIA) Justice team, she presented briefings about Federal DEIA Justice policies and equity-centered Executive Orders to bureaus within the DOI. Shakiyya developed and facilitated a three-part webinar series on the Next Generation Science Standards integrating Culturally Responsive Science, Technology, Engineering, and Mathematics (STEM) education programs, partnerships, and curricula for the Bureau of Indian Education (BIE) educators and senior leadership. Shakiyya led as Creative Program Developer for the "BIE STEM Learning Opportunities" action plan to develop professional learning resources centering students and culturally responsive STEM for local education agencies, leading education administrators, educators, students, and families. Shakiyya drafted a proposal, "Developing and Sustaining the Leadership Path of Culturally Responsive Education," a collaboration including BIE and Northeastern University. The proposed summer leadership conference is designed for BIE educators and administrators.

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<p>Stephanie Klixbull</p>	<p>South Carolina</p> <p>Elementary STEM Teacher, PreK3-5th</p> <p>Summerville, South Carolina</p>	<p>Department of Defense: Carderock Naval Surface Warfare Center (NSWC).</p> <p>Stephanie focused her time on designing and developing elementary STEM curriculum at Carderock Naval Surface Warfare Center (NSWC). These K-5 lessons and activities were created to extend the offerings in the Seaworthy STEM-In-A-Box series. A K-12 STEM curriculum centered around the science & engineering practices that are aligned to the Department of Defense’s STEM Strategic Plan, in particular the focus on the Navy’s strategic plan. During her time, she wrote over 16 lessons that were broken into two grand band boxes, K-2nd & 3-5th. As an elementary educator, Stephanie understands the current lack of time, resources, and materials for K-5 science in the average United States’ elementary classroom. With this thought in mind, all lessons that were created were also aligned to Math, Social Studies, and Reading/Writing national standards. Giving students more allocated time for science learning. Stephanie also focused her development of the lessons to advocating accessibility for all student learners. This includes students with learning and physical challenges and/or disabilities. Each lesson has a teacher and student guide that scaffolds the learning concepts to accommodate for all learners in the classroom. Stephanie worked with the Carderock NSWC graphics team to develop visually appealing, age-appropriate, and representation of diversity in the STEM workforce within the guide books in the curriculum. Towards the end of her fellowship, Stephanie was able to complete a piloted program with multiple educators within the Washington D.C. area on the newly developed kits. As well as complete 4 educational professional developments on Carderock NSWC base for educators to learn about Carderock NSWC STEM outreach and implementation of the new kits for the classroom.</p>
<p>Svea Anderson</p>	<p>Arizona</p> <p>Junior High Science</p>	<p>Department of Homeland Security under Cybersecurity Infrastructure Security Agency</p> <p>During Svea’s time at CISA she held several roles. For the first half of the fellowship, Svea helped establish two initiatives with CISA’s grantee, Cyber.org, working with HBCUs and blind and visually impaired students. Throughout the fellowship, Svea provided strategic direction to cybersecurity educational grant initiatives, communicated and networked with internal/external stakeholders, communicated and collaborated with Cybersecurity Defense Education and Training (CDET) leadership.</p> <p>Svea also worked on collaborations with Cyber.org, Girls Who Code, Black Girls Code, and the Girl Scouts. She reviewed K12 Cybersecurity Curriculum, briefed senior management on curriculum development and evaluation tools, worked on developing a toolkit of resources for educators, parents, school counselors, and students, researched best practices for implementing cybersecurity curriculum into K12 and collaborations between higher ed facilities.</p> <p>Svea researched academic viewpoints on cybersecurity safety at K12 district level for a</p>

AEF Fellow	Background	Fellowship Placement
		Senate mandate, as well as participated in grant management courses, training in assessments and evaluation design, personal professional development in diversity and equity trainings, program management, and leadership skills. Svea presented at NSTA Houston on behalf of the NSF and the Presidential Awards, as well as helped develop and facilitate a four hour workshop on Cybersecurity, Artificial Intelligence, and Machine Learning, at the NICE conference in Atlanta, Georgia.
Peter DeCraene	Illinois Math and Computer Science, High School	Library of Congress, Professional Learning and Outreach Initiatives Office Peter wrote numerous blog posts and presented at Library webinars connecting primary sources to mathematics and general STEM topics. His posts ranged in topic from researching the owner of a textbook used at Peter’s school one hundred, forty years ago, to connecting art, history, and mathematics using a diagram showing the time in various cities before the adoption of standard time zones. Peter also presented (virtually) at several conferences including the AFT’s Share My Lesson Conferences and the National Council for History Education Conference on how graphs and charts may be used as primary sources to connect math and history. In-person conferences where Peter presented on using primary sources to connect STEM topics across the curriculum include the Virginia Science Education Leaders Association annual meeting and the National Science Teachers Association regional and national conferences. Peter wrote short pieces for the NSTA journal and articles for the National Association for Music Educators and the National Council for History Education. Peter worked on identifying historical arithmetic texts and related sources, with an eye toward digitization, with a Science, Technology, and Business Librarian, and staff from LC Labs about using datasets as primary sources. Peter compiled a set of charts and graphs into a new primary source set, and wrote the accompanying documentation. Peter also enjoyed the chance to satisfy his curiosity (and raise new questions) on topics such as stereoscope projections, 19th century parlor games, and something called a “porcineograph.”

Table 3. 2021-2022 AEF Fellowship Accomplishments