



Summary Report
2013-2014 Fellowship Year

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

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.

The AEF Program, now in its 24th year with 247 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.

Overview of the 2013-2014 Participants, Federal Agencies, and Congressional Offices

Twenty-seven educators were selected for the 2013-2014 Cohort of AEF Fellows:

Number of high school teachers: 20

Number of upper elementary and middle school teachers: 7

Number of states represented by the Fellows: 17

Number of Fellows who have been teaching more than 10 years: 24

Number of Fellows who were teaching at public schools when selected: 21

The Fellows were selected by the following Agencies and Congressional Offices:

U.S. Department of Energy: 3

National Aeronautics and Space Administration: 2

National Oceanic and Atmospheric Administration: 1

National Science Foundation: 17

Congresswoman Susan Davis, CA: *1

Congressman Morgan Griffith, VA: *1

Congressman Mike Honda, CA: 1*

Congressman Paul Tonko, NY: *1

*DOE sponsored the four Congressional placements.

Program Scope

*Fellowship Support***

All Fellows receive a monthly stipend of \$7,000, which is paid by the sponsor offices. Additionally, Fellows can request to receive up to \$3,000 for travel and fees associated with their professional development during the Fellowship. All current benefits for are available on the program website: <http://science.energy.gov/wdts/einstein/>.

*Application***

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

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: <http://science.energy.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 work load 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.

**Current descriptions as of September 2016

**Albert Einstein Distinguished Educator Fellowship Program
2013-2014 Fellows**

Einstein Fellow Name	Home State Subjects Taught Grade Level(s)	Sponsor/ Host Office Accomplishments
Ann Artz	California Environmental Science, Advanced Biology, and Life Sciences Grades 7-12	DOE, Office of Science (sponsor) Congressman Paul Tonko (host office) Served as the office subject area expert on issues related to education, particularly Common Core State Standards, and was a technical representative for the advocate Congressman’s bill calling for the integration of engineering curriculum into elementary classes.
Ophelia Barizo	Maryland Biology, Chemistry, and Environmental Sciences Grades 9-12	NSF, Directorate for Engineering, of Emerging Frontiers and Multidisciplinary Activities Served as a program coordinator and assisted 57 Project Directors in the collection and assessment of awarded research projects. Coordinated and managed teleconference meetings on the status and progress of projects and summarized meetings outcomes for project assessment and summaries of the division’s portfolio. Used “public” content from project meetings to develop outreach material and instructional material to broaden interest in the K-12 community.
Michelle Basile	District of Columbia General Science and Mathematics Grades 4-6	DOE, Office of Science (sponsor) Congresswoman Susan Davis (host office) Served as the primary staffer covering the office Education and Workforce committee portfolio. Contributed to three bills: The EARLY Act, The Student Loan Fair Prepayment Act, and The Support Emotional Learning Act, which involved extensive research on impacts of the elements of the bills, outlining the pros and cons of the negotiable parts, and gauging the support from stakeholders and Congressional sponsors.

Elaine Blomeyer	California Mathematics, Computer Science, and Robotics Grades 9-12	NSF, Directorate for Education and Human Resources Supported the Presidential Awards for Excellence in Mathematics and Science Teaching Program that included recruiting, planning the State Coordinators' Meeting, organizing recognition events, and creating software tools for program management efficiency.
Barbara Buckner	Tennessee Mathematics, Chemistry, and Physics Grades 9-12	NSF, Directorate for Education and Human Resources Office of the Assistant Director Served as the director's representative to the four divisions providing reviews and updates of critical crosscutting elements among the divisions, and worked to improve work flow synergies. Developed a set of outreach practices to amplify the NSF "identity."
Britta Culbertson ²	Washington Science Grades 9-10	NOAA, Office of Education Served as a communication specialist for the agency engaged in public outreach through social media, on-site tours, conferences, and development of website content for middle and high school students and teachers. Developed "NOAA in Your Backyard" education resources that have specific appeal for different regions of the US.
Kaye Ebelt ¹	Montana Science, Mathematics and Robotics Grade 5	NSF, Directorate for Engineering in the Civil, Mechanical, Manufacturing and Innovation Collaborated with the Curry School of Education at UVA to pilot an engineering course for educators designed to expose educators to advances in rapid prototyping such as 3D printing, electromechanical systems, and instrumentation and control software. Developed a concept lab at NSF where faculty from other departments at UVA

		and Einstein Fellows could develop engineering curriculum and demonstrations to be “field tested” at a local UVA middle schools.
James Forester	Virginia Physics, Computer programming, and Algebra II Grades 10-12	DOE, Office of Science (sponsor) Congressman Morgan Griffith (host office) Managed the education portfolio for the office, stayed current with all committee action related to education, and helped prepare the congressman for committee hearings and markups. Continually met with stakeholders and education advocacy groups, prepared briefs on various positions, and collaborated with committee staff to evaluate legislation as they proceeded through the legislative process.
Steve Griffin	Louisiana Physics, Chemistry, and Mathematics High school	NSF, Directorate for Engineering, Industrial Innovation and Partnerships Served as a communication specialist raising the awareness and broadening participation of high school students and teachers in the research supported by the division. Participated in panel reviews for the Small Business Innovative Research (SBIR) program and developed opportunities for high school students to be aware of and engaged in, where practical, in the research funded by this program.
Natalie Harr ¹	Ohio Science Elementary school	NSF, Directorate for Computer & Information Science & Engineering, Division of Information and Intelligent Systems Coordinated the first <i>Designing Disruptive Learning Technologies</i> Distinguished Lecture Series at NSF, contributing to the designing, format, and logistics of providing for participation on site and remotely, and developed summary material and file copies of interviews/presentations/Q&As and source documents, all of which are searchable.

Melinda Higgins	Tennessee Chemistry, Biology, Forensics and Biochemistry Grades 10-12	NASA, Office of Education Served as a communications specialist collaborating with other federal agencies to assure that NASA STEM resources were visible, easily assessable, and part of the full set of STEM education and workforce development resources available to the K-16 student and teaching community.
Kathryn Hoppe ¹	New York Science and Mathematics Grades 7-12	NSF, Director for Engineering, Division of Engineering Education & Centers Served as a communications and resource specialist for the Research Experiences for Teachers program and was responsible for web site content, employing and assisting participates with software, and extending engagement opportunities to underrepresented STEM teachers.
Joseph Isaac ²	District of Columbia General Biology, Forensic Science, Biotechnology, and Molecular Biotechnology Grades 9-12	NSF, Directorate for Education & Human Resources, Division on Learning in Formal and Informal Settings Served as an outreach specialist who developed a broader and more diverse participant pool of students and educators for several NSF programs.
Jennifer Kennedy	Alabama STEM specialist Elementary school	NASA, Aeronautics Research Mission Directorate Served as a content specialist who edited and revised educational activities published on the program web site and aligned them with both the Next Generation Science Standards and the Common Core State Standards. Served as an outreach presenter at middle and high schools, universities, and many affiliate groups.
Jennie Lyons ¹	New York Computer science and electronic publishing	NSF, Computer and Information Science & Engineering Coordinated the production of <i>Bits & Bytes</i> , a bi-monthly web publication highlighting

	Grades 9-12	research involving computer science projects at NSF that were directed at high school classrooms. Researched the barriers, especially in rural areas, to increasing availability of all STEM subjects and provided guidance on these issues during grant reviews.
Kathy Malone ²	Pennsylvania Physics and Biology Grades 9-12	NSF, Directorate for Education and Human Resources, Division of Research on Learning in Formal and Informal Settings Researched the host program award portfolio and completed comparative studies of the results with those of the Math and Science Partnership program to analyze connections in demographics, award topics and methods.
Zovig Minassian	California Biology and Marine Biology Grades 9-12	DOE, Office of Science, Workforce Development for Teachers and Scientists Reviewed the DOE laboratories' education websites and developed guidance to create a consistent "look" and include similar information about the host office program that sponsors the research experiences at the 17 laboratories. Created the "STEM Resources for K-12 Educators" searchable website containing lessons that introduce students to laboratory research.
Stephen Portz	Florida Engineering and Technology Grades 6-12	NSF, Directorate for Computer & Information Science & Engineering, Division of Computer and Network Systems Served as a planning coordinator on the leadership team for a Cybersecurity Education Workshop designed to review past accomplishments and refine future direction for proposal solicitation of novel research. Participated in a broad review of the Cybersecurity education landscape that became a baseline for a "change document" to guide future program planning.
Lynn Foshee Reed ²	Virginia	NSF, Directorate for Geosciences, Division of Polar Programs

	<p>Mathematics and Calculus</p> <p>High School</p>	<p>Organized and managed the Joint Science Education Project (JSEP), an international science-education trip for teachers and high school students from the United States, Denmark, and Greenland. Gave several presentations on JSEP at national and international conferences to promote the program and encourage virtual participation in JSEP.</p>
Rebecca Sansom	<p>Utah</p> <p>Chemistry and Biology</p> <p>Grades 10-12</p>	<p>NSF, Education and Human Resources, Division of Undergraduate Education</p> <p>Worked as a team member combining validated sets of best practices from STEM teacher preparation and leadership programs into one advanced program for pre-service and in-service teachers.</p>
Joshua Sneideman ¹	<p>California</p> <p>Mathematics and Science</p> <p>Grades 5-8</p>	<p>DOE, Office of Energy Efficiency and Renewable Energy</p> <p>Managed a full range of efforts in support of K-12 and informal education as related to the DOE <i>Energy Literacy Framework</i> that included: 1) increasing outreach and participation from federal partners, 2) working with Climate Change Live (an established interagency working group), 3) incorporating social media and web conferences, and 4) translating the <i>Framework</i> into Spanish.</p>
Sheryl Sotelo	<p>Alaska</p> <p>All subjects</p> <p>Grade 6</p>	<p>NSF, Directorate for Education & Human Resources</p> <p>Coordinated components of the PAEMST program with the review panel and awardee perspective in mind. Worked collaboratively with other program coordinators to streamline administrative processes and facilitated communication among the awardees.</p>
Florentia Spires	<p>District of Columbia</p> <p>Mathematics, Science, and Engineering</p>	<p>NSF, Directorate for Computer & Information Science & Engineering, Division of Computer and Network Systems</p>

	Grades 6-8	Conducted feasibility studies and made recommendations for improved management practice for the operation of panel reviews. Provided constant open communication with panel participants as well organize components of a reverse site visit.
David Thesenga	Illinois Physics, Chemistry, and the Earth sciences Middle and high school	NSF, Directorate for Geosciences, Division of Earth Sciences Researched and analyzed the broader impacts of Geosciences grants related to K-12 education. Developed a report detailing the needs and benefits of creating an online teacher professional development program to broaden the participation in the GLOBE program, a worldwide data collection effort aimed at students in the K-12 system to collect, share, and analyze a wide variety of data related to their surrounding environments.
Shawn Tiegs	Idaho Physics, Chemistry and Mathematics High school	DOE, Office of Science (sponsor) Congressman Mike Honda (host office) Served as a Legislative Aide responsible for activity on the Congressman's behalf regarding all forms of education from early childhood education to post graduate studies and adult training education programs. Participated in the drafting, editing, negotiating and introduction of two bills: the Technology-Enabled Innovation Partnerships Act and the Supporting Community Schools Act.
James Town	California Science, Engineering and Mathematics Grades 10-12	NSF, Directorate for Education & Human Resources, Division of Research on Learning in Formal and Informal Settings Planned Science, Technology, Engineering, and Mathematics (STEM) Smart Meetings. Created a Project Based Massive Online Open Course to help teach high school students about engineering thinking, and helped develop the model for NSF's STEM Teacher Leader program.

Sharon Webb ²	Virginia Mathematics and Computer science Grades 10-12	DOE, Office of Science, Workforce Development for Teachers and Scientists Served as an assistant coordinator for the National Science Bowl at the regional and national level, including editing the team biographies for the competition book, writing and reviewing competition questions, developing the table-top engineering challenges, as well as a large number of administrative duties (security, supervision, scheduling, etc.) associated with hosting hundreds of middle and high school students for five days.
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¹ First of two years

² Second of two years