



Summary Report
2010-2011 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 21st year with 187 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 2010-2011 Participants, Federal Agencies, and Congressional Offices

Twenty-three educators were selected for the 2009-2010 Cohort of AEF Fellows:

Number of high school teachers: 23

Number of upper elementary and middle school teachers: 9

Number of states represented by the Fellows: 23

Number of Fellows who have been teaching more than 10 years: 25

Number of Fellows who were teaching at public schools when selected: 28

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

U.S. Department of Energy: 3

National Aeronautics and Space Administration: 3

National Oceanic and Atmospheric Administration: 1

National Science Foundation: 20

U.S. Department of Education: 1
Senator Kirsten Gillibrand, NY: 1*
Senator Joseph Lieberman, CT: 1*
Congressman Mike Honda, CA: 1*
Congressman Tim Murphy: 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
2010-2011 Fellows**

Einstein Fellow Name	Home State Subjects Taught Grade Level(s)	Sponsor/ Host Office Accomplishments
Fred Belmont	Illinois Mathematics Grades 6-8	NSF, Directorate for Computer & Information Science & Engineering, Division of Information and Intelligent Systems Served as an influence in three programs bridging strategies between art, science, and technology to highlight successful learning practices among the three disciplines and investigate any synergies that may help struggling middle and high school students to learn more easily.
Buffy Cushman-Patz	Hawaii Mathematics and Science Grades 7-12	NSF, Office of the Director, Office of Legislative & Public Affairs Worked as a communication and outreach specialist creating greater utility for agency-produced teaching resources be it print, web based, or video collaborations with <i>NBCLearn (Chemistry Now, Science of the Winter Olympics, Science of NFL Football, and Changing Planet)</i> to support K-12 educators with informal and classroom instructional material.
Kisha Davis-Caldwell ¹	Maryland Mathematics Grades 4-5	NSF, Directorate for Education & Human Resources, Division of Research on Learning in Formal and Informal Settings Served as a coordinator for the Presidential Awards for Excellence in Mathematics and Science Teaching program, and assisted on several panel reviews for proposal solicitations throughout the year.

Brenda Gardunia ¹	Idaho Algebra and Pre-Calculus Grades 9-12	NSF, Directorate for Computer & Information Science & Engineering, Division of Computer and Network Systems Served as program assistant for both the Research Experiences for Teachers (RET) and Research Experiences for Undergraduates (REU) programs. Coordinated applicant outreach, panel reviews of host site proposals, and teacher workshops. Workshop planning included arranging the venue, agenda, keynote speakers, breakout sessions, and program book with the biographies and research abstracts of the participants.
Mark Greenman ²	Massachusetts Physics and Administration Grades 11-12	NSF, Directorate for Education & Human Resources, Division of Undergraduate Education Served as a resource and a researcher on many varying issues that relate to science education; particularly agency programs that have as a common goal the development of human capital to improve STEM instruction.
Eduardo Guevara ²	Texas Integrated Physics and Chemistry Grades 9-10	DOE, Office of Science (sponsor) Congressman Solomon Ortiz (host office for 3 months); Congressman Tim Murphy (host office for 8 months) Served as a researcher on STEM issues at the national level, and an advisor on K-20 education in the district and related constituent services.
Matthew Inman ¹	Washington Integrated Science and physics Grades 9-12	DOE, Office of Energy Efficiency & Renewable Energy Coordinated a new program initiative to improve energy education for individuals and communities that involved DOE, other federal agencies, industry, and affiliate organizations. The program defined what it means to

		be “Energy Literate” and identified the fundamental concepts for a strategic plan that underlie this literacy.
Arundhati Jayarao ²	Virginia Physics and Chemistry Grades 10-12	DOE, Office of Science (sponsor) Senator Kirsten Gillibrand (host office) Served as the lead for the office on education issues and was the Senator’s subject matter expert on the Elementary and Secondary Education Act (ESEA) reauthorization, the Higher Education Act (HEA), and the Student Aid and Fiscal Responsibility Act.
Leigh Jenkins	West Virginia Biology and Environmental Science Grades 9-12	DOE, Office of Science (sponsor) Department of Education Office of Vocational and Adult Education (host office) Served as a program coordinator for the <i>Sustainability Summit: Citizenship and Pathways for a New Green Economy</i> a national workshop where hundreds of educators from higher education and K-12 schools demonstrated models of sustainability from their campuses to advance the goal of establishing sustainability education in our Nation’s schools.
Sheikisha Jenkins	Maryland Biology Grades 9-12	DOE, Office of Science (sponsor) Representative Mike Honda (host office) Researched and analyzed trends and developed policy recommendations to expand the congressman’s science education legislation <i>Evaluation STEM Act</i> . Developed teachers support legislation titled <i>Educators Mobilized to Provide an Outstanding Workforce for Education Reform Act</i> .
Mike Kennedy	Illinois Honors and AP Physics	DOE, Office of Science, Workforce Development for Teachers and Scientists

	High School	Reengineered the Pre-service Teacher program and evaluated the accomplishments of the participants in the laboratory undergraduate internship programs.
Tina King	Tennessee Integrated Science Grade 8	NSF, Directorate for Education & Human Resources, Division of Human Resource Development Reviewed the successes of past grantees and cataloged best practices as a reference for future program and project assessment, and extensively broadened the program outreach to stakeholders that would influence the participation of women/girls in science and engineering.
Lindsay Knippenberg ¹	Michigan Biology and Environmental Science High School	NOAA, Office of Education Developed communications and web material to make NOAA resources more accessible to educators in collaboration with NOAA scientist-created web-based lessons specific to the Gulf Oil Spill.
Jenay Sharp Leach	Virginia General Science Grades K-6	NASA, Aeronautics Research Mission Directorate Served as the technical editor/subject matter expert for textbook, <i>The Science of Flight</i> , and accompanying lesson plans and writer/editor on several NASA Curriculum Products, including: "Flight Testing Newton's Laws," "Museum in a Box," "High Flyers' Alphabet Activity Book" and others, and served as the Executive Secretary for the agency Education Coordinating Council.
Laura Lukes	Arizona Earth and Space Science, Geology	NSF, Directorate for Geosciences, Office of Polar Programs Developed and coordinated the program for 2011 Joint Science

	High School	Education Project Science to Greenland (contacted scientists, developed protocol, found projects, developed curriculum and evaluation) and facilitated trip. Collaborated with Greenlanders on establishing the JSEP Kangerlussuaq (Greenland) Field School.
Camsie (Matis) McAdams ²	New York Algebra and Mathematics Grade 9	NSF, Directorate for Computer & Information Science & Engineering, Division of Computer and Network Systems Served as an outreach specialist to underrepresented groups in the computer science community, specifically women, minorities, rural populations, and persons with disabilities.
Dan Menelly	New York General Science Grades 6-8	NSF, Directorate for Computer & Information Science & Engineering, Division of Advanced Cyberinfrastructure Developed and adapted hands-on science experiments to initiate a set of cyber-enabled learning and outreach models for NSF, specifically the Digital Teaching Station Prototype that allowed students to be in contact with researchers at sea and MicroGlobalScope which enabled select students to share research results via a program blog.
John Moore ²	New Jersey Earth Systems, Environmental Science High School	NSF, Directorate for Geosciences, Division of Atmospheric and Geospace Sciences Served as a program coordinator and outreach specialist for Geosciences providing program improvements based on a teacher's perspective. Validated contributions from teachers and undergraduates as participants on

		research teams in the Research Experience for Teachers and Research Experience for Undergraduates programs.
Dave Oberbillig ¹	Montana Biological Sciences High School	DOE, Office of Science, Workforce Development for Teachers and Scientists Coordinated two evaluation working groups with science education managers at DOE's national labs: 1) assessed the laboratory and host research mentor's view of the undergraduate/faculty internships and the contributions to their research projects and 2) developed a past participant survey.
Bernadine Okoro	Washington, DC Chemistry and Earth Science High School	NSF, Directorate for Engineering Division of Industrial Innovation & Partnerships Created the division's first newsletter, <i>Innovation Connections</i> , which focuses on IIP's efforts to continue the leveraging of federal dollars to bring together successful partnerships, within government, academe, and industry.
Kristen (Edwards) Paul ²	Arkansas Biology, Human Anatomy, and Physics High School	NASA, Office of Education/Headquarters Participated in inter- and intra-agency meetings, contributed a "teacher's perspective" to educational materials and contests, and assisted students and teachers seeking information about NASA's programs and opportunities.
Jean Pennycook ¹	California Biology, Chemistry, Physical Science, and Earth Science	NSF, Directorate for Education & Human Resources, Division of Research on Learning in Formal and Informal Settings Served as the program coordinator for

	Grades 7-8	the Presidential Award for Excellence in Science and Mathematics Teaching recognition week and researched and prepared reports on NSF grant trends.
Staci Richard	California Biology, Physical science and Ocean Science Grades 5-12	DOE, Office of Science (sponsor) Senator Joseph Lieberman (host office) Served as a lead in the Senator's office on STEM issues and analyzed proposed legislation including <i>The STELLAR Student Act</i> , focused on effective teacher and principal evaluation tied to meaningful professional development, <i>Race to the Top</i> , <i>Scholarships for Opportunities and Results Act</i> , <i>STEM Master Teacher Corps</i> , and others.
Geraldine Robbins ¹	Florida Math Grades 7-12	NASA - Goddard Space Flight Center, Office of Education Developed and reviewed educational materials and participated in evaluation committees to ensure agency education materials were relevant, useful, and timely in understanding the research of the universe.
Erik Russell ¹	Colorado Science and Math Grade 4-6	NSF, Directorate for Computer & Information Science & Engineering, Division of Engineering Education & Centers Oversaw the White House-supported National Lab Network project that was aimed at building a connection between military STEM professionals and their local K-12 STEM educators in an effort to leverage resources, build ties, and share the excitement and diversity of STEM careers.
Terrie Rust	Arizona Technology Grades 5-8	NSF, Directorate for Education & Human Resources, Division of Research on Learning in Formal and Informal Settings Collected data from various educator

		groups to inform the program on the uses and impacts of informal science education resources (the findings were also published in the <i>International Technology and Engineering Educators Association</i> journal) and developed a database of 101 Research Centers and the 18 Large Facilities for the NSF web site.
Steve Schreiner	Washington General Science and Technology Grades 5-8	NSF, Directorate for Engineering, Division of Engineering Education & Centers Coordinated proposal reviews and analyses for projects involving research from the Central American and Caribbean regions and shared NSF-funded research with the broader community by developing project highlights and success stories.
Kevin Simmons ²	Florida Physics, Chemistry and Aerospace Science High School	NSF, Directorate for Computer & Information Science & Engineering, Division of Industrial Innovation & Partnerships Increased the Foundation's understanding of the national need to engage students in engineering and aerospace-related competitive activities.
Nancy Spillane ²	Connecticut Chemistry, Life Science, and Physical Science High School	NSF, Directorate for Education & Human Resources, Division of Research on Learning in Formal and Informal Settings Assisted with the Presidential Award for Excellence in Mathematics and Science Teaching program that included providing analyses of past participants, organizing the State Coordinators' Meeting, and organizing the Recognition and the awardees' events in events in Washington, DC.
Tim Spuck ¹	Pennsylvania	NSF, Directorate for Education &

	<p>Earth, Space, Computer and General Science</p> <p>Middle and high school</p>	<p>Human Resources , Division of Graduate Education</p> <p>Assisted the GK-12 Program Manager by conducting in-depth reviews and site visits to evaluate and improve the STEM classroom teaching component, a required element of graduate student grant awards, and served as a working group member of the Teachers Learning for the Future and the STEM Master Teachers Corp programs formed to research best practices for STEM teacher training and professional development.</p>
Mike Town	<p>Washington</p> <p>Environmental Science</p> <p>High School</p>	<p>NSF, National Science Board</p> <p>Served as an education policy researcher on select STEM issues, wrote four notable “white papers” on a number of national STEM reform reports, and aligned the reports with other national policy reports and current legislation.</p>
Sue Whitsett ²	<p>Wisconsin</p> <p>Biology</p> <p>High School</p>	<p>NSF, Directorate for Biological Sciences, Division of Molecular & Cellular Biosciences</p> <p>Reviewed final reports from grant recipients who worked with K-12 STEM students and teachers to analyze, document, and further investigate the grants’ impacts on teachers and students that could be replicated in the future.</p>

¹ First of two years

² Second of two years