



Summary Report  
2009-2010 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 20th year with 168 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 2009-2010 Participants, Federal Agencies, and Congressional Offices**

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

Number of high school teachers: 18

Number of upper elementary and middle school teachers: 5

Number of states represented by the Fellows: 17

Number of Fellows who have been teaching more than 10 years: 15

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: 1

National Oceanic and Atmospheric Administration: 1

National Science Foundation: 14

Senator Kirsten Gillibrand, NY: 1\*

Senator Joseph Lieberman, CT: 1\*

Congressman Mike Honda, CA: 1\*

U.S. House Committee on Education and the Workforce: 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  
2009-2010 Fellows**

<b>Einstein Fellow Name</b>	<b>Home State Subjects Taught Grade Level(s)</b>	<b>Sponsor/ Host Office Accomplishments</b>
Kirk Beckendorf <sup>2</sup>	Texas  Integrated Science  Middle School	NOAA, Office of Education  Based on an extensive literature search and other available research, contributed to the design improvement and further development of a NOAA Education website using peer input to test for relevance of content and instructional interests at the middle and high school grade levels.
Tracey Edou	Washington  Science and Mathematics  Middle School	DOE, Office of Science, Workforce Development for Teachers and Scientists  Worked on reconfiguring a middle/high school STEM educator lab research experience developing practices and participant requirements to help bring research methods to the classroom as a teaching tool.
Marti Canipe	North Carolina  General Science  Grades 3-8	NSF, Directorate for Geosciences, Division of Polar Programs  Contributed to the advances of web resources by incorporating search methods that list polar education resources categorized by grade level, subject area, etc., and whether the resource is focused on the Arctic, Antarctic, or both. Developed resources for the "Bringing Science to School" project that helps involve scientists in the K-12 classroom.
Jonathan Davies	Oregon  Physics and Chemistry	DOE, Office of Energy Efficiency & Renewable Energy  Worked on building consensus among various energy and renewable industry

	High School	stakeholders on the essential principles and fundamental concepts for “a framework for an energy education for learners of all ages” strategic plan.
Mark Greenman <sup>1</sup>	Massachusetts  Physics and Administration  Grades 11-12	NSF, Directorate for Education & Human Resources, Division of Research on Learning in Formal and Informal Settings  Served as a researcher for the division by gathering, processing and analyzing data concerning the state of science and math education across America, and synthesized voluminous data into executives summaries used as resources in guiding program decisions.
Eduardo Guevara <sup>1</sup>	Texas  Integrated Physics and Chemistry  Grades 9-10	DOE, Office of Science (sponsor) Congressman Mike Honda (host office)  Managed a diverse portfolio of issues in education, including Special Education, Bilingual Learners, and the GI Bill; along with Climate Change, Veterans Affairs, and Human Rights. Contributed to three separate Bills submitted by Rep. Honda.
Mark Hannum <sup>2</sup>	Washington, DC  Physics and Calculus  High School	NSF, Directorate for Education and Human Resources, Division of Graduate Education  Worked on the production of a ten-year retrospective review detailing the successes of the GK-12 program and providing analysis as well as considerations for future funding.
Kirk Janowiak	Indiana  Biology and Chemistry  High School	DOE, Office of Science, Workforce Development for Teachers and Scientists  Contributed management assistance to two separate but significant tasks: 1) supported the graduate fellowship program by helping to verify, validate, and review applicants by supporting an

		on-site panel review of top applicants and 2) assisted on a project to gather and synthesize the national STEM workforce in collaboration with other DOE offices to have a broad view of the current and near-term national S&T workforce.
Arundhati Jayarao <sup>1</sup>	Virginia  Physics and Chemistry  High School	DOE, Office of Science (sponsor) Senator Kirsten Gilliland (host office)  Worked as a subject matter researcher on education issues including student loans, afterschool programs, STEM education, K-12 engineering education and minorities in STEM programs, was a team lead in organizing the Senator's first New York State College Presidents' Summit.
Camsie (Matis) McAdams <sup>1</sup>	New York  Algebra and Mathematics  Grade 9	NSF, Directorate for Computer & Information Science & Engineering, Division of Computing and Communication Foundations  Served as an outreach specialist to underrepresented groups in the computer science community, specifically women, minorities, rural populations and persons with disabilities. Was a lead in facilitating the federal science agencies' participation in the National Lab Day, an unprecedented "exhibitor" event on the National Mall where students and educators across the country learned about STEM content and the rewards of STEM education and careers.
John Moore <sup>1</sup>	New Jersey  Earth Systems and Environmental Science  Grades 9-12	NSF, Directorate for Geosciences, Division of Earth Sciences  Co-authored with a second Einstein Fellow "NSF Broader Impacts: A K-12 Teacher Perspective" which serves as a resource for both educators and researchers alike in identifying locations of currently funded

		geoscience education projects and opportunities for the K-12 community to linked to geosciences at the regional level.
Dennis Newell	Kansas  Integrated Science and Mathematics  Middle School	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 a number of panel reviews for proposal solicitations throughout the year.
Steve Obenhaus	Kansas  Mathematics  High School	DOE, Office of Science (sponsor) Senator Joseph Lieberman (host office)  Served as a legislative aide on all issues in the education realm and concentrated efforts on two issues of particular interest in the office: 1) reauthorization of the Opportunity Scholarship Program which provides tuition support for low-income students with broader choice, and 2) the removal of a penalty for accepting part-time work while receiving benefits from the Federal emergency unemployment insurance program.
Heather Pacheco	Massachusetts  Geoscience  High School	NSF, Directorate for Geosciences, Division of Atmospheric and Geospace Sciences  Worked to advance the awareness and development of instructional material to improve teaching in Climate Change Education and Earth Systems Science in the K-12 grades.
Kristen(Edwards) Paul <sup>1</sup>	Arkansas  Biology, Human Anatomy, and	NASA, Office of Education  Participated in inter- and intra-agency meetings contributing the “teacher’s

	Physics High School	perspective” to educational materials for students and educators who wish to explore unique space and aeronautics content through NASA's education opportunities.
Anthonette Pena <sup>2</sup>	Florida Integrated Science Middle School	NSF, Directorate for Education & Human Resources, Division of Research on Learning in Formal and Informal Settings  Served as a management support specialist for the Presidential Awards for Excellence in Mathematics & Science Teaching program coordinating both the State Coordinators’ and National Selection Committee meetings, and managed the logistics for the Awardees “Recognition Week”, which is an intense week of professional development activities including a White House ceremony.
Kristina Peterson	Washington Chemistry High School	DOE, Office of Science (sponsor) U.S. House Committee on Education and the Workforce (host office)  Assisted with a series of hearings on the reauthorization of the Elementary and Secondary Education Act. Managed education bills by contributing to the review and writing of bill sections, accompanying press advisories, House floor talking points, as well as editing the text of the bill in agreement between both majority and minority staff.
Kevin Simmons <sup>1</sup>	Florida Physics, Chemistry, and Aerospace Science High School	NSF, Directorate for Engineering, Division of Industrial Innovation & Partnerships  Supported assessment of the division’s portfolio and outreach to better inform the public as to the numerous educational possibilities within the Division. Also, developed and managed outreach strategies to increase

		awareness of the national need to engage students in engineering and aerospace-related competitive activities.
Nancy Spillane <sup>1</sup>	Connecticut  Biology, Chemistry, and Earth Science  High School	NSF, Directorate for Education & Human Resources, Division of Research on Learning in Formal and Informal Settings  In collaboration with other Fellows, coordinated three major events for the annual Presidential Awards for Excellence in Mathematics and Science Teaching program hosts: the State Coordinators' Meeting in October 2009, the Recognition Week for the 2008 Presidential Awardees in January 2010, and the National Selection Committee Panels for 2009-2010 Applications.
Chris Tolbert	North Carolina  Advanced Technology  High School	NSF, Directorate for Computer & Information Science & Engineering, Division of Advanced Cyberinfrastructure  Collaborated as a grant portfolio analyst, and assisted in the development of programs, especially using cyber infrastructure intended to reach the underserved, at-risk, and students with disabilities in K-12.
Benjamin Van Dusen	Colorado  Physics  High School	NSF, Directorate for Engineering, Division of Industrial Innovation & Partnerships  Was the division liaison for an external, three year retrospective, panel review (Committee of Visitors), helped to lead the committee through the review process and follow-on questions. Also developed two program brochures that served as best examples for succinctly communicating the IIP program mission and accomplishments.

Susan Whitsett <sup>1</sup>	Wisconsin Biology High School	NSF, Directorate for Biological Sciences, Division of Environmental Biology  Analyzed proposals that have a K-12 component as part of the broader impact statement, and co-chaired a conference in June 2010 for 50 scientists to develop strategies for the integration of biological research and education.
Sarah Yue <sup>2</sup>	California Chemistry High School	NSF, Directorate for Engineering, Division of Engineering Education & Centers  Served as a coordinator for research and education activities in the Americas region, particularly in Central America and the Caribbean to advance research excellence and innovation, and promote global engagement of scientists and engineers at all career stages.

<sup>1</sup>First of two years

<sup>2</sup>Second of two years