

**Teachers Network Leadership Institute  
Santa Barbara County TNLI Metlife Fellow**

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**The Albert Einstein Distinguished Educator Fellowship: Perspectives of a Science Teacher Working in the U.S. House of Representatives**

**Overview**

The Albert Einstein Distinguished Educator Fellowship is a federal program that awards outstanding teachers of mathematics and science with the opportunity to work on federal policy in Washington D.C. for one year. The author was a recipient of the Einstein Fellowship in 2006, after working for nine years as a junior high science teacher specializing in robotics and engineering outreach. This paper summarizes the process of receiving the fellowship, the work completed during the fellowship year, and the perspectives of a classroom teacher working directly on education policy. The author returned to the classroom at the culmination of his fellowship year. On the eve of the 20<sup>th</sup> year of the Einstein Fellowship, readers may discover the significance of this program, and, if willing, pursue the fellowship and policy work themselves.

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## Luke Laurie: The Albert Einstein Distinguished Educator Fellowship

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## **I. Introduction**

In 2006, I was awarded the Albert Einstein Distinguished Educator Fellowship to work in the U.S. House of Representatives, as a legislative assistant for Congressman Mike Honda, from California's 15<sup>th</sup> District. After nine years as a science teacher in a school primarily serving low-income English-language learners, teaching science and running robotics outreach programs, this experience offered me a significant change. For one year, I had the opportunity to work directly on federal education and science policy. I was fortunate enough to find a Member of Congress to work for that gave me significant responsibility, and enabled me to engage in the full duties of a congressional legislative assistant, at a historically significant time. This project details the duties, responsibilities, special events, and learning opportunities that I was fortunate enough to experience during my Einstein Fellowship, and my perspectives upon returning to the classroom.

## **II. The Albert Einstein Distinguished Educator Fellowship**

The Albert Einstein Distinguished Educator Fellowship is a special opportunity for math and science teachers to work in Washington D.C. in various government agencies or in the U.S. Congress, in order to contribute to federal policy. Participating teachers are expected to take their experience back to the classroom or education community in order to become teacher leaders, however, some many have stayed in positions working on education or science policy.

### **Overview of Program**

In the 2006-2007 school year, there were fourteen Einstein Fellows. The fellowship recipients were from diverse backgrounds from across the United States, all with exceptional credentials and accomplishments. Einstein Fellows are teachers of mathematics and/or science, though some come from backgrounds teaching those

subjects at the elementary level, or to special education students. Through a lengthy selection process that includes an essay application and interviews, fellows are selected to work on Capitol Hill or in various government agencies. According to the website:

*Albert Einstein Fellows bring to Congress and appropriate branches of the federal government the extensive knowledge and experience of classroom teachers. They provide practical insights and "real world" perspectives to policy makers and program managers developing or managing educational programs. This program provides an opportunity for classroom teachers to impact national educational policy and to learn about the political process and agency programs.*

### **History of Program**

The Fellowship began in 1990, but was placed into formal existence through an act of Congress. The bill that formally established the fellowship was S. 2104 in the Senate and H.R. 5479 in the House, in the 103<sup>rd</sup> Congress. The Albert Einstein Distinguished Educator Fellowship Act of 1994 became public law 103-382, which allowed the Department of Energy to administer the program, by helping select and provide funding for expenses related to the Einstein Fellowship. Though the actual implementation is somewhat different from the law, the text of can be viewed on the Einstein Fellowship website: <http://www.trianglecoalition.org/fellows/fellact.htm>

### **Participating Agencies**

*Selected teachers spend a school year in a Congressional Office, the Department of Energy (DOE), or a federal agency such as the National Aeronautics and Space Administration (NASA), the National Science Foundation (NSF), the National Institute of Standards and Technology (NIST), the White House Office of Science and*

*Technology Policy (OSTP) and the National Oceanic and Atmospheric Administration (NOAA).*

Within the various agencies, different programs have hosted Einstein Fellows, allowing for significant diversity in the kind of experience that Einstein Fellows have been able to have, and allowing Fellows to provide insight and influence to many diverse programs over the years. On Capitol Hill, placement depends highly on the availability of space within offices, but also the specific staffing needs and political role and political leanings of Members of Congress.

**Work of Einstein Fellows**

*Fellows provide practical insight in establishing and operating education programs.*

*Fellowships increase understanding, communication, and cooperation between legislative and executive branches and the science, mathematics, and technology education community.*

According to the website, some of the outstanding contributions of Einstein Fellows have included:

- *Drafting legislation and influencing policy that seek to improve K-16 education in the United States;*
- *Initiating collaborations and establishing partnerships between federal agencies;*
- *Designing and implementing national science, math, and technology education programs;*
- *Creating web-based science education programs;*
- *Establishing and evaluating national and regional programs centered on school reform and teacher preparation in science, mathematics, and technology; and*

- *Creating and producing educational curricula and products with national distribution*

Much of the work of Einstein Fellows is not generally available to the public, because their work is often under the jurisdiction of a government agency, or a Member of Congress. Often the work is collaborative or advisory in nature, and may have an indirect influence on education policy. However, some projects, such as science curricula, produced and widely disseminated by various government agencies, are the work of Einstein Fellows. However, even work that Einstein Fellows produce from start to finish will generally be credited to their superiors. The work of Einstein Fellows has not gone unnoticed however, as many have been able to continue working in policy after their Fellowships have expired. While Barack Obama served in the Senate, his legislative assistant on education was an Einstein Fellow. Others former fellows are working in the National Science Foundation, the National Institute of Health, The Department of Energy, the Department of Defense, and elsewhere. Many, like myself, have returned to the classroom.

The Einstein Fellows of 2006-2007 worked on a variety of projects with broad implications for federal policy. Fellows in the Department of Energy worked in the Office of Science, evaluating the Department of Energy's programs for undergraduate research at the various National Labs across the country, such as Lawrence Livermore National Lab in California and Jefferson National Lab in Virginia. They also worked on programs related to professional development for teachers, National Science Bowl, and various other projects that connect the Department of Energy to Science Education policy.

Fellows in the National Science Foundation worked on various projects related to science research and education. One such project involved increasing diversity in science, and others involve, earth science, international science, and graduate education. One of the fellows at NSF was able to travel on a research vessel to Antarctica.

Fellows placed at NASA worked on education projects related to space science, K-12 and graduate education, as well as national engineering standards. Fellows at NOAA were involved in numerous projects related to education outreach in Ocean and Atmospheric Sciences, including the Science on a Sphere project (developed by NOAA, but being used by NASA)

In 2006-2007, Fellows on Capitol Hill were involved in the reauthorization of the Elementary and Secondary Education Act (No Child Left Behind), IDEA (The Individuals with Disabilities Education Act), education funding, and other legislation and projects related to science and education policy. Fellows were also involved in planning and running hearings, meetings, drafting legislation, briefing Members of Congress, and acting as the voice of classroom teachers.

### **Elements of the Einstein Fellowship Program**

The Einstein Fellowship year consists of an annual cycle of a selection process, interviews on Capitol Hill (for Hill fellows only), relocation, orientation, beginning work in placement, placement report, mid-year report and presentation, selecting new fellows, final report, and completing the fellowship. The selection process is detailed below.

During the year, the duties of Einstein Fellows vary significantly based on the agency and role they play in the office in which they are placed. Fellows have different levels of responsibility, time obligations, and duties. During the fellowship year,

however, they are provided with opportunities for professional development, and participate in events, which bring them together in order to share their unique experiences. These events include workshops, conventions, and tours of government agencies and science labs.

### **III. Selection Process**

The Einstein Fellowship is difficult to obtain. The selection process includes an application, interviews with government agencies, and finally, for Capitol Hill fellows only, interviews with various legislative offices. According to the support literature, Fellowship selections are based on evidence of:

- Excellence in teaching science, mathematics, or technology;
- An experimental and innovative attitude in their approach to teaching;
- Sustained professional growth in science or mathematics in the art of teaching;
- Professional involvement and leadership;
- Interpersonal and communication skills needed to serve in the public policy environment; and
- Knowledge of national, state, and local policies which affect education

Einstein Fellows are required to have a minimum of five years of classroom experience in mathematics or science instruction, though many have far more. This factor distinguishes Einstein Fellows from many other policy fellows in Washington D.C., many of whom are graduate students or recent graduates. The criteria are high, and there are many applicants, so obtaining an Einstein Fellowship is in itself an honor.

### **The Einstein Fellowship Application**

Having some technical expertise is required just to complete the online application, which is fitting, because most fellowship positions require significant technology skills to complete required tasks. The online application consists of several biographical questions, some short answers, and several essays. Applicants also submit a resume, and letters of recommendation. By screening the applications, the applicants are narrowed to approximately 40 applicants, who are invited to Washington D.C. to be interviewed by the various agencies that host Einstein Fellows. Below are the essay questions and my responses from my application I completed in January of 2006, which also highlight the professional experiences that prepared me for the Einstein Fellowship.

***17. Einstein fellows are frequently placed in challenging situations that require independence, self-assurance, motivation and flexibility. Identify aspects of your professional career that demonstrate these characteristics.***

I enjoy teaching, but I've never considered my work to begin and end with the school day. I find true satisfaction comes from contributing to the field of education, and offering novel curricular and extracurricular activities for students. I consider my commitments to leadership roles and collaborative projects part of being a consummate professional.

I began teaching science with broad instructional skills but a limited science background. This quickly changed. In 1999, I was fortunate enough to be invited to participate in SPSI (Science Partnership for School Innovation), sponsored by the National Science Foundation and UCSB's Materials Research Laboratory. Through the Summer sessions of this program and its extension, BTC (Beyond the Classroom), I collaborated with fantastic science teachers from all over Santa Barbara County for five

years. I was able to attend lectures by research scientists and work on projects with innovative colleagues. The networking between science teachers across the region allowed a constant sounding board for ideas. I learned from the best.

Beyond the Classroom provided me the resources, time, and contacts to develop sophisticated units to use in my science classes to integrate technology and literacy. I experienced significant growth in these programs, and eventually assumed a leadership role, becoming a Facilitator. I worked with other Facilitators to coordinate staff development and collaboration opportunities. I also ran workshops on digital video and coached my colleagues on web page development. I learned to use email listserves, to enable collaboration across a broad geographic region.

My leadership roles grew after I was selected to be a Facilitator for Beyond the Classroom. I began to work with our school district's Science Action Team. I was on the Science Textbook Adoption Committee. I became science department's representative on our school's Leadership Team. I facilitated cadres at our school site to promote equal access and extra curricular activities. In 2000, I was awarded the Venoco Crystal Apple Award for outstanding secondary instructor. My methods and science knowledge earned the respect of my peers. In 2004, in spite of being the youngest science teacher, and lacking seniority, I was chosen to be the Science Department Chairperson of EL Camino Junior High.

In 2000, I was offered a chance to work with LEGO robotics materials provided by The University of California at Santa Barbara. After a year of experimenting, my work caught the attention of the engineering staff at UCSB. My design and programming

skills, coupled with my leadership and technology expertise, earned the invitation to coordinate RoboChallenge, the UCSB Engineering outreach program.

With RoboChallenge, I was given full liberty to make the program the way I wanted it. My colleagues at UCSB knew how to procure the funding, but had trouble putting it into action as a true outreach program. Before I took over, there were only three teachers and approximately 30 students involved. In the following year, I recruited teachers from my collaborative network, purchased new materials, ran workshops, and set up an email listserv. Since, we have averaged 10 teachers and 200 students annually. Students have been able to participate in Summer workshops, afterschool programs, and regional competitions sponsored by RoboChallenge.

I became the Curriculum Director and subsequently, Director. For RoboChallenge, which I have continued to the present, I develop robotics competitions, coordinate events, manage budgets, purchase materials, and offer expertise to students and teachers building robots across the Central California Coast. I cowrote grants for a sum of \$100,000 to maintain the program. I have expanded my contacts further by becoming involved in the Robotics Society of America, which holds competitions in San Francisco. My work has received national and international attention.

I have a drive to experiment and learn. I regularly consult online resources, both educational and scientific. I perform research for fun. Currently, I'm field testing assessments I've designed to measure what misconceptions my students hold, and which ones they manage to shed through their science learning.

Many of my skills are self-taught. I have taught myself to film and edit digital video, to build and maintain internet websites, desktop publishing, and to use a variety of

input devices. I composed and produced my own music to use with my videos. I've produced DVD's and CD-ROM's. To teach my students robotics, I learned robotics myself. I am unafraid to bring new technology into the classroom. I use a SmartBoard and wireless Interwrite Pad, and a wireless network. I'm experimenting with video conferencing. I am one of a only few teachers who has the skills to run our district's planetarium. Other teachers come to me almost daily for advice or help with their computers.

In 2005, I received the Amgen Award for Science Teaching Excellence. This award was based on excellence in Creativity, Effectiveness, Motivational Ability, Instructional Ability, and in Meeting State Standards. Receiving this award validated my choices and hard work.

I hope that I am considered for the Einstein Fellowship, because I believe my work ethic and experience have prepared me for the opportunity.

***18. How have you demonstrated leadership in mathematics and science teaching beyond your classroom? Describe your work on national, regional, and local levels.***

I have extensive leadership experience at the local and regional level. At my own site, I currently hold the following leadership positions: science department chairperson, site leadership representative, site union representative, and articulation facilitator. I am actively engaged in the decision making process at my school site, district, and in my local region, especially as it concerns science education. I have held facilitator roles in the Equal Access Cadre, and Extra Curricular Activities Cadre. I converse regularly with my principal, district superintendents, and from time to time, the board of directors.

On a broader level, I have participated in, and held leadership positions in several regional organizations. I have served on the district's Science Action Team, where I have participated in textbook and science materials selection. I represented my school in UCSB's Science Partnership for School Innovation, and its continuation, Beyond the Classroom, for which I became a facilitator for 3 years. For BTC, I organized opportunities for staff development and collaboration. I also ran workshops on digital video and coached my colleagues on web page development.

My greatest leadership role has been the Director of RoboChallenge, an engineering outreach program that began at UCSB. For this program, which annually serves approximately 200 k-12 students, I have recruited teachers, run workshops, developed audiovisual materials, run an extensive website, managed an email listserve, and coordinated events. Through grant writing and perseverance, I have extended RoboChallenge long past the expiration of its original funding. I have directed this program for 5 years.

***19. What can government and/or community organizations do to help improve education opportunities in science, mathematics, and technology for under-served populations?***

My nine years of teaching experience have been at a school that definitely qualifies as under-served. This population is more than 80% free and reduced lunch eligible, more than 90% Hispanic, and more than 60% second language learners. I have worked in several programs designed to improve educational opportunities for these students in science, mathematics, and technology. MESA (Mathematics, Engineering, and Science Achievement) and RoboChallenge are effective outreach programs that

contribute to college awareness, career exposure, and excellence in math and science. These programs provide motivation for students to pursue math, science, and technology careers. What can government do for these programs? Fund them. These programs, and programs like them have been cut and eliminated in recent years, in a time when they need to grow. In some areas, STEM outreach to under-served populations has vanished. MESA has continued with reduced funding. RoboChallenge has continued with no funding for three years.

A glaring inequity stares at us every day when we work in under-served public schools. In recent years, gradually, they have become more and more segregated, racially, linguistically, and socio-economically. Many of these schools are not racially diverse. In fact, they are racially segregated. STEM efforts notwithstanding, we lose potential scientists and mathematicians, to an educational system that under-funds schools for the poor and minorities. I would support measures that could reverse this trend, and encourage educational equity.

***20. What was the most challenging experience you faced in your teaching career and how did you deal with it?***

In 2003, NCLB “Highly Qualified Teacher” Requirements were beginning to surface. Through notices, presentations, and meetings, it became apparent that many teachers like myself had to question whether the certifications and qualifications we had been hired with would be sufficient to keep our positions in the future. Our district had made a concerted effort to hire teachers with Multiple Subject Credentials to teach in the Junior Highs, so that the teachers could change subjects and teach more than one subject, to make scheduling easier for the administration.

The California and National “HQT” requirements were presented, misrepresented, and even mutated over time. Many teachers like myself wondered whether our careers could continue. Many of us were told we would have to go back to school, get a new credential, and pass tests to keep our jobs.

I wasn’t content to just accept the information I was being provided, and contacted the State Board of Education, and referenced documents available from the State and Federal education departments. Eventually, I learned that the path to becoming a “highly qualified teacher” was not as difficult as it was being presented. Many teachers would be deemed to meet the requirements solely on their years of experience, and would not need new credentials. For myself, I decided additional certification wouldn’t hurt, so I spent a few months studying and passed the California test for geological sciences, and after petitioning the California Commission on Teacher Credentialing, received my science teaching credential.

***21. What was the most rewarding educational or professional experience you have had? Why was it so?***

In 2005, I was received the Amgen Award for Science Teaching Excellence. I was selected primarily through my extensive narrative that demonstrated excellence in Creativity, Effectiveness, Motivational Ability, Instructional Ability, and in Meeting State Standards. This honor was particularly rewarding, because in the narrative I described the things I was the most proud of, and felt most strongly about. When I discovered that I had won the award, I felt as though my personal convictions were validated. I had the gratification of learning that my educational values and hard work were valued, not just by my students and peers, but also by esteemed scholars.

Amgen worked hard to show how much they value science education. I received a sizable honorarium, a grant for science materials for my school site, and a regal awards ceremony at the Amgen Campus in Thousand Oaks. At that ceremony, Amgen made me and the other award winners feel like royalty. I returned to my school site with the awareness that the work that science teachers do is valued at many levels.

***22. Describe what a visitor to your classroom might observe.***

Coming into my classroom, an observer would initially be surprised to see the amount of technology in use. Through grants, awards, and special projects, I have acquired an extensive collection of instructional technology that greatly contrasts with the century old exterior of the building. In the corner, there is a mobile lab of 20 laptops. In the opposite corner, there are shelves and cabinets displaying thousands of dollars of LEGO and VEX robotics materials. In front of the classroom, there is a new G5 iMac flat-screen computer attached to a Smartboard and a wireless input pad. A bright projector displays lecture notes and internet resources on a 7' wide screen. Videos play on three televisions simultaneously, including one for the visually impaired.

The teaching they would observe would be fast paced, witty, active, and drawing from real-world examples. Physics, astronomy, and chemistry, are brought into familiar context. Students respond for credit when cards with their names are randomly drawn. The material is difficult, but is approached from multiple angles. Following active lessons, vivid demonstrations, and extensive notes, students engage their textbooks using the SQ3R (Survey, Question, Read, Recite, Review) reading comprehension strategy.

Discipline problems are rare in my class. Often, students are too busy learning and working to misbehave. Nonetheless, they receive rewards and encouragement for

positive behavior. My Colors of Success discipline system rewards students for Cooperation, Courage, Creativity, Focus, Perseverance, Respect, and Responsibility.

***23. What issues in education at the national, state and local levels would you like to address if you were an Einstein Fellow?***

I am open-minded about what issues I would address as an Einstein Fellow. I would prefer to contribute to issues that relate to my experience and expertise, but would be willing and able to research issues where I was less well versed. I have some knowledge in educational outreach, educational technology, educational equity, testing and accountability, standards, and science misconceptions.

Educational equity is an important virtue to me. Much of my career has been spent trying to provide increased opportunities for students who suffer from the lack of a level playing field. I would welcome an opportunity to be involved in work that would increase funding and STEM exposure, decrease class size, and provide resources to under-funded schools, as well as measures that would increase diversity and eliminate segregation in schools.

Another area of great interest to me is that of elementary science education and science misconceptions. In recent years, I have been gathering data on basic science misconceptions held by students at the junior high level. I have done my own research, and contributed data to the Harvard-Smithsonian Center for Astrophysics SPARCS research. Often, I find that ideas that most students misunderstand are the same ones that adults without a science background misunderstand. I am interested in improving science education at the elementary level, and improving elementary teacher preparation as it

relates to science. I would be interested in proposals to bring science specialists into elementary schools.

***24. Einstein Fellows are often asked to create or assist in the development of educational materials or programs. Provide examples that would indicate your competence in completing such assignments?***

Through my work in Beyond the Classroom, the Science Partnership for School Innovation, and RoboChallenge, I have extensive experience in development of curriculum, web-based resources, and audiovisual materials.

In Beyond the Classroom (<http://btc.mrl.ucsb.edu/>), I developed extensive standards-based units that integrate science, technology, and literacy. My final project was submitted in the form of a CD-ROM, now available here:

<http://homepage.mac.com/mrlaurie/btcfolder/btc.html>

My website (<http://homepage.mac.com/mrlaurie/>) has been visited by tens of thousands of people. The site is extensive, including a multitude of audiovisual resources, on topics including teaching science, methodology, philosophy, robotics, and resources for students.

For RoboChallenge (<http://homepage.mac.com/mrlaurie/robo/>), I have developed an extensive website of resources for students and teachers working with Robotics. The site includes text resources, downloadable .pdf documents, a vast library of images, and Quicktime videos.

My work has included filming, editing, and producing videos for the web, CD-ROM's and DVD's. In my years with RoboChallenge, I have produced dozens of videos highlighting events, demonstrating projects, and explaining concepts. I have acquired

advanced hardware and software. My videos have been viewed by hundreds of students and teachers and used at events and workshops in our region, as well as internationally.

### **Interviews with Agencies**

From the applications, approximately 40 finalists are chosen, whose information is distributed to the participating government agencies. The agencies determine which of the candidates they wish to interview. Candidates who are chosen for one or more interviews are invited to Washington D.C. for a few days around the middle of March. In 2006, I was one of almost 30 people who were invited to Washington D.C. for interviews. I was given three interviews, one with the National Science Foundation, Geosciences Division, another with NASA, and the panel interview with the Department of Energy.

The Department of Energy interview is not only for selecting the fellows who work in the Department of Energy, but also those who work on Capitol Hill. This interview was conducted by a panel of several people from the Department of Energy, and three Einstein Fellows, including one from Capitol Hill. There were approximately ten interviewers asking extremely difficult questions about education, science, and policy. I think they asked me the right questions however, because my answers were swift and thorough. They tried to put me on the spot, but I kept my cool. Consequently, a month later, I was offered a fellowship position on Capitol Hill.

### **Capitol Hill Interviews**

The Fellows who are selected to work on Capitol Hill have the additional difficult task of finding an office to host their fellowship. Fellows often have to pursue their own interviews, make contacts with congressional offices, and drop in to offices. I came to

Washington D.C. on my own, and spent a week in July looking for both a home and a position on the Hill. I took some time to familiarize myself with D.C. Metro region.

Some Congressional offices don't take fellows. For others, space can be the determining factor. In seeking out a fellowship, I looked for offices that were willing to host a fellow, had sufficient space, were working on science and/or education issues, and represented politics I was comfortable with.

I wore a full suit, coat and tie, on the two hottest days of the year while I interviewed on Capitol Hill. I had six interviews on two days. Two were in the Senate. Four were in the House. The two Senate offices were Obama and Lieberman. Four different people interviewed me over the course of two hours in Senator Obama's office. I was amazed by the majesty of the Senate offices (especially as compared to the House offices I was in the following day.) In the House I was interviewed for the following Member's offices: Rep. Danny Davis, Rep. Juanita Millender Mc Donald, Rep. George Miller, and Rep. Mike Honda. I don't think I'll ever be intimidated by the prospect of being interviewed again.

In each of the offices, I was asked a variety of questions about my opinions and knowledge of all facets of education, energy conservation, environmental protection, and global warming. The whole experience was amazing. Many of the people who I talked to had all kinds of things to share with me, and advice. I was offered three positions, but didn't wait for all offices to respond. I was very impressed by several of the offices, but I personally met congressman Mike Honda, and had a wonderful interview with him and his staff. I gave it a week, but accepted the position with Congressman Honda, from

California's 15th district; Silicon Valley, including part of San Jose, Cupertino, stretching down to Gilroy, famous for growing garlic.

#### **IV. Position Responsibilities**

The responsibilities of a legislative aid can vary greatly depending on the time of year, the particular issues facing the Congress, and the status of current legislation of the Member of Congress. In essence, legislative aids do whatever the Member of Congress needs done. Some of this work is relatively mundane, but many activities are unique and interesting. The work of a staffer is the work that runs the House of Representatives.

#### **Placement Report**

*Shortly after I began my fellowship, in the Fall of 2006, I wrote a short summary of my placement, summarizing my duties and role in the office. The following is that report, which highlights what my duties were like early in the fellowship.*

I am pleased to have obtained a position in the office of Congressman Mike Honda. Congressman Honda represents California's 15th district, which is in the San Jose area, part of which is considered to be Silicon Valley. Rep. Honda is on the Transportation and Infrastructure Committee and the Science Committee, where he is Ranking Democratic Member of the Energy Subcommittee. Honda also chairs CAPAC (Congressional Asian Pacific American Caucus) and the Ethiopian Caucus.

I was fortunate enough to be able to attend a staff retreat with "Team Honda" in August. We spent a couple of informal days in the mountains, where I got to know everyone much better than I would have in an office-only situation. I have been taken into the staff as a colleague, as a legislative assistant, and have been assigned several issue areas, though I retain the title "Einstein Fellow." I am covering two previous bills,

and the following issue areas: education, environment, water, Katrina, veterans, disaster preparedness, and Homeland Security. My office is very busy with other issues, and they were glad to have me share the load.

My work is pretty brisk so far, and my duties diverse. I've gone to several trainings, and learned from other office staff members, who are always glad to help. I've been able to attend some luncheons, briefings, and other events, but much of my time is spent at my computer. My duties include monitoring current legislative activity, researching legislation, and offering recommendations for votes or cosigning. I monitor Dear Colleague letters in my issue areas to determine important events to attend, letters to sign, and new legislation. I also receive and respond to constituent mail. At some point, I may 'staff' the Congressman at an event.

My work involves an incredible amount of research. I use CRS, LIS, and Google quite a bit. I've already read dozens of bills, dear colleagues, bill summaries, and some legal code. I'm learning to watch the floor activity on the direct feed like a sporting event from the legislative director, who is a floor wonk.

I am responsible for taking office meetings with lobbyists and advocates in my issue areas. I'm doing much more careful scheduling than I've ever had to do. So far, these meetings have been very easy and non-confrontational. Mike Honda is very progressive, and votes in favor of education measures that are good for teachers and students, and environmental bills that are good for the environment and public health. So meeting with environmental and education advocates is pleasant.

To whom do I report? I report to different people on different kinds of tasks. The chief of staff has final say in all office matters. She often suggests which staff will attend

which events. She is keenly aware of the subtleties of politics, and will screen letters and signings through the political filter. The Legislative Director reviews all my writing before it is made public, including letters to constituents, vote recommendations, and dear colleague letters. Ultimately, of course, we all answer to Mike Honda. My vote recommendations are just that, recommendations. Mike Honda will vote as Mike Honda.

Perhaps the most rewarding part of my placement so far is the level of respect and autonomy my office has afforded me. My coworkers have the highest respect for my work and for teachers. My opinions are requested, and listened to. I was encouraged to attend events and meetings on behalf of the congressman on my first day.

Perhaps the most difficult area of my work is the breadth of the issue areas I am expected to cover, and the scarce time to research important issues. I've set up RSS feeds to monitor news in my issue areas, and rules to sort my copious emails. I have done a tremendous amount of research, but it is divided among the very broad topics, especially education, the environment, and veterans' issues. While education is my specialty, I find myself spending a lot of time on the issues of the day or the week, and less time looking ahead at the big picture. I find that I must settle on less than all the information before I need to make an informed decision. It amazes me that so many things get voted on with so little information, and so little informed debate.

There is so much I've already learned, and so much I will learn. I believe I could return to the classroom today, already a changed man. My skills at research and fact-finding have already improved dramatically. I already have a much richer knowledge of the legislative process and the inner workings of the House of Representatives. I look forward to the possibility of contributing to new education legislation this year.

**Email and Mail**

On any given day, I will spend time reading mail and Email. I often get more than one hundred emails in a day. Most are exchanges within the office about ongoing work, but many are invitations to events, meeting requests, information from lobbyists and activists, or communications with other offices about legislative issues. In my mailbox, I will often get thick research reports on education or the environment, piles of letters from other Members' offices about legislation and policy, but mostly I receive glossy propaganda from private industry or government agencies.

**Dear Colleagues**

Dozens of "dear colleague" letters fill my mailbox and my email box every day. These letters are generally sent out in order to encourage cosponsorship of legislation, but also often request signing of letters to committee chairs or agency directors to influence policy. Most dear colleagues are not in my issue area, so I just give them a quick scan, but when they relate to the issues I am responsible for, I will read them and consider their suggestions. Dear colleagues are perhaps the most common way of learning about new legislation. They are also Capitol Hill's form of junk mail.

**Reviewing Legislation**

I spend a significant amount of time on any given day reading actual legislation and legislative summaries provided by the Library of Congress' Legislative Information Service. I have learned to read the arcane phraseology of bill language to find the important details. At times, I will consult the staffers who are working on bills in order to learn more about the implications, both political and policy-oriented. Legislative research can lead to cosponsorship recommendations, vote recommendations, or often inaction.

**Legislative Recommendations**

When I have reviewed legislation, and consider it to be meritorious, and fitting with Congressman Honda's positions and interests, I will recommend cosponsorship or a Yes vote, if the bill is under consideration by the House. The recommendation I write will emphasize the core elements of the legislation, the opinion of stakeholders and constituents, and the political implications. The recommendation will be submitted to the Legislative Director, who can assess the recommendation within the larger context of relationships between Members of Congress, legislative history, and the Congressman's voting record.

**Blackberries**

Blackberry is the brand name for a fancy cell phone that lets you check your email and keep track of your calendars and stuff like that. What makes them special are the tiny keyboards that you can use to enter text with your fingers or thumbs. So with a blackberry, in theory, you can actually send and receive email. These devices are not simple and elegant like iPods, but they do work. It's a miracle, it's like you're never leaving work. Literally, some folks check their email before bed, once in the middle of the night, and in the morning when they get up. Everybody on Capitol Hill has one. It is a must. Basically, the workings of Congress are so reactive that everyone needs to be on call all the time, and everything is subject to change. Congress members have appointments in different time zones, and at all times of day, so they'll need to consult their staff at odd hours. Hill staffers are constantly checking their email while doing other things, especially at hearings and briefings. You can tell how boring a meeting is by how many people are working on their email.

Representatives and Senators all have their Blackberries of course, but their use of them is usually not as compulsive as that of the staff. It's common for Congress members to complain the technology wasn't working when they don't feel like consulting their staff.

I'm using a Blackberry now, but I'm not as addicted to it as some of my coworkers. Indeed, it's handy, but it's a curse more than a blessing. It's no wonder some hotels offer, as a perk, to take away your Blackberry for the duration of your stay.

### **Constituent Mail**

One of the most time consuming jobs in a legislative office is answering the mail that comes from constituents. Constituents write in about everything and anything, and in Congressman Honda's office, nearly every letter is answered. I am responsible for writing five or more letters to constituents each week. The process of answering constituent mail is different in different offices, but inevitably involves interpreting the constituent's request, opinion, or question; researching relevant issues, and composing a response.

In Congressman Honda's office, said to be "The Starship Enterprise" of House offices, technology is used heavily to assist in the reduction of the incredible volume of mail. All incoming mail, whether it is faxes, email, or snail mail, is automatically entered into our networked database "Intranet Quorum" or IQ, software designed and maintained by Lockheed Martin. The legislative correspondents sort through the incoming mail, where they identify which letters are form letters, which are from genuine constituents, and which can be easily answered with preexisting replies already stored in the database. There is a vast library of old letters that are routinely used to

answer constituent questions, sometimes with only minor revisions required. A lot of people ask the same questions and have the same concerns. Some letters, on more recent topics, or on more unique issues, may require a more carefully researched response. These letters are doled out to the legislative staff, who generally answer the letters appropriate to the legislative issues areas they are responsible (for example, some of mine are the environment, education, and veterans issues). I am assigned several letters a week for individual responses, and from time to time, I will also be responsible for composing a form letter to respond to many individuals writing in on the same topic.

When I am assigned a letter, it is almost always a difficult one to answer. The easy ones to answer are usually answered by the legislative correspondents. Generally, these letters fit the following descriptions: 1) Urging the congressman to take a position on legislation; 2) Asking for some kind of political action; 3) Asking for information about a topic; 4) Asking what the Congressman is doing about a particular issue; or 5) Asking for something peculiar.

I research the topics addressed in the letters, especially relevant Congressional action, and relevant action the Congressman himself has taken, such as cosponsorship, letters, previous statements, etc. In formulating a response, I have to be extremely careful about accuracy, and careful not to make any promises on issues that may have uncertain outcome. The letter will be read and edited by other staff members before it is sent out.

Some might be very skeptical of the influence of constituent mail on the legislative process knowing that the Representatives and Senators themselves are very unlikely to read any given letter that comes in. However, constituent opinions are very

important in my office, and the Congressman will routinely ask if the constituents have written in to weigh in on a particular issue. The letters also serve to encourage the Member's staff to educate themselves about various topics, in order to answer the mail. In turn, this can serve to improve the staffer's knowledge of a particular issue. There times, also, when the letter informs the staff about a particular action or piece of legislation that the representative could be a part of, and the constituent letter actually provides the recommendation that puts the staff and their boss into motion on a particular issue, such as cosponsoring a piece of legislation, or signing a letter of petition.

Letter writing can be challenging and laborious, but finishing letters is usually very gratifying. However, they keep coming.

### **Peer Review**

When other staff members are working on assignments that relate to my issue areas or experience, I will sometimes be asked to review or edit their work. At times, my knowledge will be able to add something to their work. The degree to which products are vetted in the office before they are made public is something I think teachers could learn from. I find that teachers tend to work alone, without the input or advice of their colleagues. Having my colleagues edit my work is not an option I had ever considered. I have seen the benefits of respectful editing and proofreading, and would consider initiating more collaboration on projects when I return to teaching. There is a place for peer-review in education.

**Meetings**

I take meetings with activists, lobbyists, constituents, and others who have concerns or projects related to my issues. Principally these meetings are related to the environment or education. Some days, I will have no meetings, on other days, I will have as many as six. Often, people who come in for meetings have a specific legislative issue that they would like to discuss; a bill they want the Congressman to cosponsor, a letter they want him to sign, a project they want him to support, or specific policy they want him to consider. Most meetings I take myself, but from time to time, it will be a special meeting with the Congressman present, such as when I met with the president of MIT, and another time when I met the president of Stanford University. At times, meetings lead to follow up discussions or direct action, but often, people are providing information that would only influence future action, or urging him to support measures that he already supports.

I have found that my experience as a teacher, and the fact that I had another career before working on Capitol Hill gives me an air of credibility in meetings. People are often very thankful to meet with me, because of my prior knowledge on education issues.

**Hearings and Briefings**

Hearings on Capitol Hill are the formal manner in which Members of Congress are able to learn about a given issue, and ask specific questions of scholars, experts, or agency officials. Hearings can be informative, but they can also be extremely scripted or political. Hearings are also one of the principal tools of the oversight role of Congress. Holding hearings on an issue highlights the importance of the issue, can agency officials

on notice for failures, and can educate the public to a given issue. They can also highlight political differences between Members of Congress and political parties on a given issue.

I have attended several hearings on Capitol Hill, some of which were mundane, and others historic. I was present in one of the Senate hearings on the reauthorization of No Child Left Behind, chaired by Senator Kennedy. I sat two rows behind former Vice-President Al Gore during his testimony on global warming before the House Science and Energy Committees. Most of the Hearings I have attended were in the Appropriations Committee that Congressman Honda is a member of.

Briefings are a less formal means of sharing legislative information. They are usually intended for staff, and are very similar to the kinds of workshops one would find at a convention. The information is usually presented in simplified form, and supplementary materials are handed out to staff to help them make decisions on policy. Briefings also allow staff to make connections that can be productive for moving legislation. When work is busy in the office, I am not able to attend briefings, so it can be difficult to keep abreast of some current information.

### **Moving legislation**

I have been assigned one bill that the Congressman previously introduced in the 109<sup>th</sup> Congress, the Student Privacy Protection Act. In addition, I am working on a new bill for Congressman Honda, the Global Warming Education Act. To get these bills through Congress, they need support and attention. I am responsible for informing other offices of the bills, writing Dear Colleagues, speeches, statements for the record, and making contacts with other legislative offices to make them aware of the legislation. It is my responsibility to add cosponsors, and to work with the Committee to try to bring the

bills to the floor. I also need to work with the Press secretary in order to coordinate press around the bills.

### **Appropriations Committee Work**

I am responsible for Education for the Congressman's work on the Appropriations Subcommittee on Labor, Health and Human Services, and Education. This work involves studying all of the programs funded under the Department of Education and all of the issues related to funding those programs. I read budget documents, justifications, and historical research related to funding educational programs. I am also responsible for preparing the Congressman for Hearings by reading testimony in advance, writing questions for him to ask witnesses, and preparing briefing materials on issues relevant to the hearing. Congressman Honda asked very tough questions of the Secretary of Education Margaret Spellings and her Deputy Secretaries during the education hearings. I was proud to have been a part of developing those questions.

As the Appropriations process moves forward, I will be advising Congressman Honda as the Committee produces the bill that will fund education and other agencies for fiscal year 2008.

### **Research**

Making decisions and recommendations on policy requires me to be up date, and to have my facts straight. Fortunately, working on Capitol Hill gives me access to unique significant information resources that are not readily available to the public. Of course, using the internet to consult internet resources is the most common way of gathering information about general topics. There are daily newspapers on Capitol Hill, such as Congressional Daily, that provide a good overview of current actions in congress,

including committee actions. Being on staff in a congressional office also means that a daily deluge of information floods my mailbox and email folders daily. Much of this information is deliberately slanted, and some is even outright propaganda.

To get the facts on legislation, I regularly consult LIS, the Legislative Information Service, provide by the Library of Congress. LIS has all the information relevant to bills, laws, committee action, amendments, and Members of Congress in a searchable database. The public has access to Thomas, which is a watered-down version of the same information. I consult LIS every day to read about bills, bill action, and cosponsors.

CRS is the Congressional Research Service of the Library of Congress. CRS employs scholars in all areas who write papers and conduct research relevant to legislation and issues before Congress. Members of Congress, and their staff have the ability to make requests for information of CRS, who are able to quickly conduct research and attempt to answer any question. When an issue is complicated, and the sources are scarce, it can be much more efficient to make a research request of CRS instead of attempting to find the information.

An additional benefit of working in a Congressional office is that I can go into, and use the resources of the Library of Congress. Few staffers have time to go sit and read, but I have taken the time to go sit and read in the awesome Main Reading Room in the Jefferson Building of the Library of Congress. Just about any book you can imagine is available in the Library of Congress, and many can be accessed in minutes.

### **Monitoring the Floor**

When Congress is in session, legislative activity on the floor of the House becomes the center of attention. Hearings, briefings, caucus meetings and all manner of

events will be scheduled on top of the legislative activity however, because the Members do not actually have to be present on the floor most of the time. When votes are called, whatever is happening at the time will be interrupted, and staff will try to make sure the Congressman gets to the floor to vote, and that he has the information he needs to cast his vote. If legislation in my issue areas is to be voted on, I will need to talk with Congressman Honda, and send him vote recommendations to his Blackberry. At the time of the vote, I may also be responsible for tracking down his location and making sure he gets to the vote on time.

For staff, this means they spend a lot of time monitoring the floor. Amidst ringing phones, between hearings, and over Blackberries, legislative staffers need to know what is going on. For each week and each day, the Majority Leader will send out schedules showing which bills and rules will be under consideration on the floor of the House. Legislative staffers identify which bills warrant additional research and attention. In some cases, the bills are familiar to the staff because of previous Dear Colleagues, hearings, or briefings on the topic. Other times, a bill is newly introduced and comes to the floor immediately, such as the Supplemental Appropriations bills that have been used to fund the War in Iraq. In that case, the legislative staffer would have to spend long hours figuring out the details and potential problems with the legislation.

TV feeds allow offices to watch what is happening on the floor of the House and Senate, and in various hearings around Capitol Hill. By monitoring those video feeds and the floor update online, legislative staff can keep abreast of the amendments, procedural actions, and debate that will influence votes. Often, floor debate often is not debate at all,

only a series of opposing speeches, because there is no one on the floor of the House to hear the Member speak.

When a bill to be voted on looks contentious or complicated, it may warrant additional research.

### **The Work Day**

I would not say that a workday on Capitol Hill is harder or easier than being a teacher, but it certainly is different. I spend a lot of time on research, a lot of time at my computer, and a lot more time indoors. Most of my work takes place in the office, 1713 Longworth, but I do get over into the Capitol Building, about once per week. The interior of the Capitol Building is absolutely amazing.

I do have the luxury of going to the bathroom whenever I need to, but I miss lunches and prep periods where I would get a few daily walks across campus, and a weekly game of basketball. Here I do get out of the office occasionally, but often it is to attend a briefing or hearing that is in one of the adjacent house office buildings, which are all connected by basement tunnels, so I don't necessarily get outside. Once in a while, however, I attend an event that's across town, usually where all the big lobbying firms are in Northwest D.C. (K street), such as an education roundtable or briefing at the NEA, AFT, or the Center for American Progress.

I have a lot of independence to how I structure my day. I make my own appointments, and choose what workshops, training sessions, hearings, and briefings I attend. I also get to go to lunch and breakfast briefings, where I really can get a free lunch, or receptions where they serve alcohol and hors d' oeuvres. Once in a rare while,

there is a VIP event that the congressman can't attend, where I will attend on behalf of the Congressman at a dinner or fancy luncheon.

The workday on Capitol Hill tends to start later and slower than it does in teaching. Instead of class beginning, and needing to be alert and alive from the start of the day, Congressional staff tend to mosey in to the office, often late, and often still need to get a bite or some coffee from the cafeteria. It's probably a lot like office work everywhere, except the late nights make slow mornings perfectly acceptable. Some folks read the paper or the political dailies. There's a lot of water cooler talk while folks sort through their email.

### **Midyear Report**

*In March, 2007, I submitted a Midyear Report on my fellowship, which included discussion of how my duties had changed in the new Congress, and due to Congressman Honda's new Committee Assignments. The following is that report.*

***Description of work; Include a discussion of any opportunities you have had to contribute to or possibly influence federal education policy.***

Team Honda runs on Fellow Power, which, to a certain degree, is a renewable resource. There are currently three fellows from different organizations working for Congressman Honda. In addition, Mr. Honda's permanent legislative staff includes three former fellows, including the legislative director, who was a materials scientist and AAAS Fellow.

Congressman Honda represents California's 15<sup>th</sup> district, which is part of the San Jose area, the tech-heavy Silicon Valley. Before the election and the dramatic changes in the makeup of the House of Representatives, Rep. Honda was on the Transportation and

Infrastructure Committee and the Science Committee, where he was Ranking Democratic Member of the Energy Subcommittee. Now, Congressman Honda sits on the Appropriations Committee, where he is a member of three subcommittees; the Energy and Commerce Subcommittee, the Labor, HHS, and Education Subcommittee, and the Legislative Branch Subcommittee. Honda also chairs CAPAC (Congressional Asian Pacific American Caucus) and the Ethiopian Caucus.

I have been given the full duties of a legislative assistant for Congressman Honda, covering the following issues: education, the environment, and homeland security, especially with regards to FEMA and Hurricane Katrina recovery. I have also played a peripheral role in science issues, which are primarily handled by the Legislative Director. In addition to these roles, due to the Congressman's new committee assignment, I am now responsible for monitoring Interior and Environment Appropriations and Homeland Security Appropriations. With education appropriations, I play an active role, and am responsible for all the Congressman's work in the Labor HHS Appropriations Subcommittee related to education.

Every day, I scan hundreds of dear colleague letters, and receive hundreds of emails. In addition, I monitor updates on Floor Activity, the daily Capitol Hill periodicals, research new and upcoming legislation, and network with other offices. I usually research and write about five constituent mails each week. On slow days, I'm also able to attend trainings, workshops, hearings, briefings, or off-Hill events. A slow day is about nine hours, usually without a significant break, but I usually find some time to loosen up with colleagues, especially on Friday afternoons. Many of my colleagues regularly work until nine or ten O'clock, but unless I'm monitoring a key vote, I try to

leave by six or seven.

I have done a great deal of work on legislation. I am responsible for all vote recommendations and cosponsorship recommendations for all the issues I cover. From time to time, I need to carefully monitor the activity on the floor of the House to advise the Congressman on the motions. A few times, I have had to advise the Congressman on legislation that was controversial, or contained questionable provisions, some of which related to education.

Informally, I have had many potential contributions to education policy. I have had many informal discussions with education policy makers who wanted the opinions of an experienced teacher, in some cases in order to draft legislation, in other cases with regards to how to evaluate existing legislation. I have attended various roundtables and working group meetings where current education issues were discussed. I am engaged in the ongoing discussions about education policy in the House.

I am also working directly on legislation. One bill that was introduced in the 109<sup>th</sup> Congress, The Student Privacy Protection Act, was assigned to me. This bill will have been introduced by the time this paper is read, Tuesday, March 6<sup>th</sup>. This bill will amend the No Child Left Behind Act to change the rules for the military recruiting database. Currently, unless parents “opt-out”, their child’s contact information must be released by their school to military recruiters. Congressman Honda’s bill will change this requirement so that parents will instead opt in to the list.

I have been responsible for building support for this bill in Congress and among outside groups, preparing briefing material, statements, and Dear Colleague letters. In addition, I will be preparing a Statement for the Congressional Record. After the bill is

introduced, I will be working behind the scenes to get the bill through committee and to the floor for a vote.

Lastly, I am currently putting the finishing touches on the first bill that I have helped draft from scratch. This bill will be introduced within one or two weeks, and relates to education and the environment. After this bill is introduced, it is possible that I will be able to assist on one more before the end of my fellowship.

***Discuss any aspects of your fellowship that you feel have prepared you to assume a leadership role in preparing the next generation of teachers.***

My experience as an Einstein Fellow has dramatically increased my knowledge of education policy, innovative programs and funding opportunities, and perspective on the current state of education. Prior to my work as an Einstein Fellow, much of my philosophy of education and education policy was guided by my professional experiences, but also a large degree of speculation.

Now, I have had many first hand experiences dealing with government agencies. I have spoken directly with people who work in these programs, as well as education scholars and policy makers. I have had opportunity to not only read the research relevant to key education topics, but also to see the kinds of information that is designed to inform or misinform congressional staff. My eyes have been opened to the wheels of government, the workings of education policy at the federal level, and the role of think tanks and researchers. From all of these experiences, I've found much of my philosophy to be confirmed, but now I have a much broader knowledge base to draw upon.

Prior to becoming an Einstein Fellow, I already had several experiences pertinent to assisting other teachers, including: host teacher for undergraduate students, department

chair, master teacher for student teachers, and program facilitator for staff development programs. It is likely that when I return to the classroom, I will continue with roles such as these, but now informed by my experience as an Einstein Fellow.

I will bring a new degree of resourcefulness to my role as a teacher leader. My experiences with networking, and connections with various levels of government, have opened my eyes to many people, programs, and funds that can be drawn upon to improve education at the micro level.

Throughout my career, I have considered the possibility that one day I would teach teachers. Now, having finished my Master's degree, and moving into the final stretch of my Einstein Fellowship, I can see pursuing a PhD program as a likely scenario.

*Identify aspects of your fellowship activities that demonstrate your independence, flexibility, self-assurance, and motivation. (Please choose two.)*

### **Self-Assurance**

From my first day in Congressman Honda's office, I was given a great deal of autonomy and responsibility. Fortunately, I've come through when things were on the line, so I've earned the trust and respect of the office and Congressman Honda.

Some things were a little intimidating at first, but I never really got nervous, I just got to work. There were many firsts, such as: my first interview on Capitol Hill, the first member of Congress I sat down and talked with, the first letter I sent to a constituent, the first speech I wrote, the first newsletter that went out on the web, and the first time I staffed the Congressman at an event.

I've received a lot of positive feedback that my work, my writing, and my research, are good. Any insecurity I had about being able to do this kind of work is gone.

With all of the letters, statements, emails, and other documents I produce on a daily basis, often in a very formal tone, my writing has become much more facile. In the office, I now have a reputation of keeping up with constituent mail and writing letters quickly.

I am regularly consulted on the issues I cover, and my opinions on education are given weight from an experienced practitioner. My status as an Einstein Fellow adds to my credibility.

### **Independence**

I have an incredible degree of independence in my role as an Einstein Fellow, but also many responsibilities. I set my own schedule. I plan my own meetings. Though with so many things to keep track of, I have had to increase my ability to juggle complicated schedules, stay organized, and improve my networking.

Years as a teacher and program coordinator offered me a great degree of independence, and professional autonomy. I was uncertain how much autonomy I would have as a staffer on Capitol Hill. Fortunately, the style of Congressman Honda's office has allowed me to pursue my own intellectual and policy interests along with my work in the service of the Congressman.

I'm responsible for being up to date on all the issues I cover. On votes the Congressman makes on Education, Homeland Security, and Environmental issues, I am responsible for making the voting recommendations. I am responsible for all education appropriations work. The manner in which I complete these tasks, and the process whereby I arrive at my decision is largely my own. As long as I'm getting all my work done, and there aren't any emergencies to take care of, I chart my own course.

Probably the most significant area where I've been given independence is in legislative

creativity. I was encouraged, early on, to look into areas where I could contribute to legislation. Now, I'm in the process of completing my first bill. Congressman Honda is very supportive of the bill, as well as my efforts and decisions about how to write it.

## **V. Professional Development**

During my 2006-2007 Fellowship year, there were many opportunities for professional development related to education, science, and policy. Due to my obligations in the office of Congressman Mike Honda, I was unable to attend distant Conferences or travel extensively as some of my peers were able to, but nonetheless, I have had extensive opportunities for learning.

Much of my learning occurred by interacting with other staff members in the congressman's office. Formal and informal discussion allowed me to more fully understand the 'real' legislative process, and the subtleties of the behind the scenes work. Several formal learning opportunities allowed me to get out of the office and learn about specific issues and agencies in a way that I couldn't have done otherwise.

### **Agency Tours**

The Department of Energy and the Triangle Coalition organized several tours for Einstein Fellows. These tours included visits to the following institutions: The Department of Energy, The National Academies (of Science and Engineering), NASA's Goddard Flight Center, the National Institute of Health, The National Institute of Standards and Technology, and Jefferson National Lab. At each of these sites, Einstein Fellows were able to speak to research scientists on current research and issues, and to see the inside of research facilities.

### **Legislative Training**

During the first week of my fellowship, I was given a comprehensive introduction to the legislative process, and was introduced to several major players in education policy, both on and off the Hill. One very notable portion of this introduction was being able to meet Congressman Earl Pomeroy and to eat with him in the regal Congressional Dining Room in the Capitol.

To learn more legislative skills, I have been able to attend workshops offered by the Library of Congress Congressional Research Service on the legislative process, conducted by parliamentarians and legislative scholars who are intimately familiar with the archaic procedures of Congress. I have completed all the courses on legislative process except the “Master’s Course” which is a week long training that occurs over the summer, which includes a full two day simulation activity.

The most advanced course I completed was the two day Advanced Legislative Seminar Course. This was a fairly grueling course, going from 8:30 AM to 8:00 PM on the first day, and all day the second. Topics included the amending process, House floor procedures, and committee procedures. There was some role-playing involved, and I had the opportunity to meet many staff from other offices.

I learned that the bulk of the most frequently used procedures in the House of Representatives are designed to actually get around the regular rules. Under the regular rules, the House would deal with legislation sequentially, aside from a few things that are privileged. However, the way the House always works instead, is by passing rules that supercede the regular functioning to grant privilege to otherwise unprivileged business, and to change the parameters of debate through "Closed Rules" and Suspensions.

Most interestingly, I learned that many frequently used phrases have meanings that in no way resemble the words that make them up. For example "I move to strike the last word." means, I would like some time to talk. "I yield to myself such time as I may consume" means I'm going to talk now. And "in the opinion of the chair" often has nothing to do with an accurate assessment of the situation but is instead what the chair wants. The chair will see and hear exactly what he or she wants to, and will call a vote exactly the way he wants, that's why member have to be careful and call for a recorded vote when necessary.

### **Hearings and Briefings**

I have attended numerous hearings and briefings. Dozens of these were on education issues such as IDEA, No Child Left Behind reauthorization, and equity. I was able to attend the House Science Committee in which Al Gore was the principal witness on Global Warming, and was able to meet the former Vice President as well. I have attended some of the No Child Left Behind Reauthorization Hearings, which may impact the future of our cornerstone education policy.

Aside from Mr. Gore's appearance, perhaps the most interesting hearings have been those in the Appropriations Subcommittee on Labor, Health and Human Services, and Education. I have been responsible for preparing congressman Honda for these hearings by previewing testimony, writing briefing materials, and writing questions for witnesses. During the hearing, I advise the Congressman, and point out flaws in witness testimony, and provide supporting information and clarification.

The witnesses from the Department of Education are seen as "hostile witnesses" because of the low regard Congress has for their work, the improprieties in the

management of the agency, and the contempt the agency has had for the will and intent of Congress. For this reason, the education hearings were full of controversy. I advised Congressman Honda when he asked a series of questions criticizing the Department's implementation of the No Child Left Behind "Highly Qualified Teacher" provision, while simultaneously highlighting the Secretary of Education's inexperience in Education. By the third hearing, one witness expressed that he had hoped Congressman Honda wouldn't have been there, because he knew he would ask such tough questions.

## **VI. Developing Legislation**

Before working in Congress, I assumed that writing legislation would make up a significant amount of the work that is done on Capitol Hill. In reality, very few people actually author legislation. Many of the major pieces of legislation are the result of committee work, largely created by committee staff with expertise on specific issues. Members of Congress themselves, are very unlikely to actually sit down and write legislation.

There is no set of guidelines for how an idea becomes a bill. Often interest groups write their own legislation or legislative ideas, and then look for a friendly Member of Congress to carry their legislation. For example the National School Boards Association had a bill to correct problems with No Child Left Behind that is being carried by Congressman Don Young of Alaska.

I wanted to write legislation. Most legislative staffers do not write bills. To work on the Hill for less than a year and actually write a bill is a significant accomplishment. From the time I started my fellowship, I was exploring legislative options and niches that might be appropriate for Congressman Honda, and would build on my experience as a

science teacher. The concept that I explored the most carefully and thoroughly was the improvement of science education. Unfortunately, a bill that would enhance science education on a broad scale would be very complicated, would have jurisdictional issues in both the Congress and Federal Agencies, and would be expensive. I am still exploring this concept, and several others, but it turns out that with the Congressman's help and permission, I was able to turn an inspiration into a bill. Early in 2007, I began work on the Global Warming Education Act, which will be introduced a few days after this writing.

### **The Global Warming Education Act**

*The following text is the initial abstract which eventually became the Global Warming Education Act.*

#### **Rationale**

Scientific concepts, however simple or complex, can take a significant amount of time to become widely known and understood. Hundreds of years after Galileo, most people will still struggle to explain the motion of falling objects. Many adults would have difficulty explaining the seasons, the phases of the Moon, or the fact that most of the atmosphere is composed of nitrogen gas. People can go on with their lives without this knowledge without ill effects, but global warming presents a new kind of problem. The widespread understanding of global warming could play a significant role in our ability to actually address the problem. We don't have much time.

In order to effectively combat global warming, people will need to have some understanding of the causes, potential consequences, and the possible remedies as they become available. It is likely that changes in policy, energy usage, products,

technologies, fuels, and vehicles may lead to confusion. By providing people clear information about global warming, in a variety of forms, we can take away the fear and the sense of helplessness, and move people to take action. By informing people of the new technologies and programs as they become available, we can ensure maximum understanding and maximum impact.

**What it does**

GWEA authorizes the National Science Foundation to establish a **Global Warming Education Program** which will expand the knowledge and understanding of human induced global warming, possible long and short-term consequences, and potential solutions. The Program will apply the latest scientific and technological discoveries to provide widespread formal and informal learning opportunities to people of all ages, including those of diverse cultural and linguistic backgrounds.

In order to meet the above objectives, the activities of the Global Warming Education Program may include, but are not limited to:

- Implementing a national information campaign to broaden understanding and implementation of relevant national regulations, incentives, and programs
- Establishing a competitive grant program to provide grants to States, Educational Institutions, and other organizations to:
  - Create informal education materials, exhibits, and multimedia
  - Develop K-12 Curriculum or supplementary educational materials
  - Other?

**Science Education Legislation**

*During my entire fellowship, I have been looking into the possibility of legislation that would genuinely improve the state of science education in the United State. This concept has proven to be extremely difficult work on, but I am still hoping to put together this bill before my time here is done. The following is a summary of thoughts and assertions related to science education, which I had hoped to transform in legislation.*

The Hypothesis: My fundamental hypothesis is that science education (including engineering), as a national institution, does not exist. Instead, we have a “faith-based” science education “system” in that we don’t provide funding, resources, or centralized guidance on the subject of science, yet we still expect students to learn it. In the US, there are extensive university science education programs, some piecemeal secondary school science classes, and woefully inadequate elementary school science lessons. We still expect students to perform on standardized tests. We still expect them to enroll in university programs. We expect them to choose science, without ever having done science. We expect students to choose to become engineers, without having practiced engineering. And we still expect them to be prepared for a world where scientific and technological literacy are becoming increasingly important. Yet, we offer only superficial assistance, short term programs, often redundant and indirect, which are usually directed from outside the education infrastructure.

An Indirect Approach: There are, indeed, wonderful science education programs, resources, and opportunities out there. In many ways, these opportunities may be richer than in other disciplines, because there is the potential to participate in agency sponsored programs, research fellowships, and competitions. Science students and teachers have the potential to benefit from several government agencies and partnerships with private

industry. The National Science Foundation, of course, has several divisions which provide funding to K-12 programs, as do the Department of Energy, The Environmental Protection Agency, the National Forest Service, the National Oceanographic and Atmospheric Agency, and of course, NASA. Yet, something is peculiarly missing.

Barnacles on the Ship: For the most part, the programs and outreach provided by the federal government are excellent, but their effectiveness is diminished, because the regular K-12 science education is lacking, and for many regions and grade levels, nonexistent. Linda Darling-Hammond, at the NEA Visiting Scholar's Program, called these indirect, peripheral approaches the "barnacles on the ship" of education policy. Supplementary programs fall flat, when there is nothing to supplement. It is a sad state of affairs when the only concentrated science students have in a year is a single field trip or guest speaker. Schools and districts with minimal science programs and limited connections to government agencies and institutions of higher learning do not benefit from the myriad science and engineering outreach programs. Without geographic proximity or systematic outreach, most schools are not able to participate in robotics competitions, watershed research, or innovative tutoring programs. The rhetoric says there is a strong "need" for science, and students need to find out "how cool" science is, but fact of the matter is that what we really need to do is prepare students for science, and teach them science. Students need to learn the way scientists and engineers do things. Science and engineering need to be taught, practiced, and reinforced at all levels, k-12, and need to be institutionalized to become part of the core of American public schools.

How do we establish and provide for the education of our youth? How do we make it a national priority? It would take an act of Congress. And that is exactly what I propose.

Aren't the issues related to effective science instruction too broad to deal with though public policy? After all education is a local issue.

What we Know: The knowledge of how to teach science in effective, innovative ways is no great secret. Nor are the methods to create effective partnerships with private industry and institutions of higher learning. There is a significant knowledge base for how to structure effective teacher inservice and preservice science education training programs. There is also a knowledge base for how to structure incentives and retention programs to resolve the issue of providing qualified science teachers. We know that elementary schools can benefit from employing science and mathematics specialists. These specialists can provide regular direct instruction, applying methods and content knowledge that may be beyond the training of a traditional K-6 teacher. These specialists can work with staff to provide assistance and ongoing training to strengthen the STEM programs in lower grades. We know effective math and science curriculum focuses on fewer content areas in greater detail, and uses problem based approaches. Effective science lessons include tasks for students that allow them to actually experience the kinds of problem solving approaches that are used by mathematicians, engineers, and scientists. What do we do? If we know all of this about STEM education, why aren't we doing it? The ship is big, heavy, and slow. It is far easier for legislation to deal with the periphery than the core. The core, however is where the change is needed. We need a solid framework for science education. We need the research of the National Academies to be

applied. We need the results of tested NSF programs to be expanded, applied, and sustained. We need a central office, which is responsible for directing this movement by assimilating the research, coordinating between the government agencies, targeting resources to regions where they are most needed, and performing evaluation on programs. This organization would be tasked and funded with sufficient resources to improve the core of STEM education. The STEM pipeline would be broadened at the base, leading to many more mathematically, scientifically, and technologically literate.

### **VII. Post-Fellowship Perspectives**

The decision about what to do when the Fellowship term ends is perhaps the most difficult decision an Einstein Fellow must make. When you are passionate about teaching, it is difficult to do anything else, yet to work on policy that may improve education nationwide is a thrilling experience. No treatment here can encompass all that this decision entails. The Fellowship is a life-changing experience. Not everyone gets to walk the halls of congress and feel like they are making a difference. Returning to the classroom, I would forfeit the ability to work on issues on a macro level. I would have to say goodbye to close friends I had come to know on Capitol Hill. But as difficult as it was, to return to my home, with my family, and to my school, it was the choice for me.

I returned to the classroom and California in 2007, with a good sense for how my work fits into the national scheme of things, and feeling confident of the difference it makes. With a fresh perspective, I reassessed my approaches, and found new ways to enhance my instruction and influence policy. I began to work with the MetLife Teacher's Network Leadership Institute program, helping teachers develop action research to positively influence education policy. I also testified before the California State Senate

Select Committee on Schools and Community on the needs of science classrooms and laboratories, and the unintended consequences of the current No Child Left Behind law. With a greater appreciation for collaboration to address systemic change, I coauthored a new robotics grant called RoboEvolution, again, with UCSB faculty, to create a new coalition of robotics instructors on the Central Coast and to purchase new robotics materials for schools in the Santa Barbara Region.

In 2008, I became the Santa Barbara County Teacher of the Year. This position gave me the opportunity to speak on important local and national education issues and connected me with many of the region's educational leaders. In a way, it was a logical extension of my work as a TNLJ Fellow and as an Einstein Fellow. Through speeches and television interviews, I was able to improve public perception of education, and continue my work affecting public policy.