

## **Mid-Year Report to the IEEE-USA Government Fellowship Committee**

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I started my fellowship at the beginning of January 2006 in the office of Representative Dana Rohrabacher of the 46<sup>th</sup> District of California. The district encompasses the lower coastal portion of Los Angeles County, and northern Orange County. The Congressman is a senior member of the House Committee on Science, which drives much of my activity. Also, being in Southern California, the district has a strong science and technology base.

There were advantages and disadvantages to being a January start. On the plus side, I probably had the best transition of any fellow. With my office only a few metro stops from Congress, and replacing Randy Brouwer, an IEEE fellow, I was able to meet with Randy a number of times on the transition. I was also able to attend a few Science Committee hearings, and get together with some of the congressional fellows who started in October to obtain some of their start up experiences on the hill. The minuses would be the time gap for fellows from out of the Washington area, the placement difficulties of starting in January, especially if you are replacing an October start fellow, and being out of phase with the majority of your class of fellows.

Starting in January, while Congress was not in session, gave me a chance to find my way around the hill, pick up the office routine, and get prepared on the background of science and technology areas of interest to the Congressman. After the release of the President's budget, there were a number of background briefings with Departments and Agencies, which come under the jurisdiction of the Science Committee. With the start of the Congressional Session, the workload had a step function increase. There were hearings on the budgets of the science oriented Departments and Agencies with the Agency heads and Secretaries. I also set up an office meeting with Dr. Marberger, the President's science advisor, to go over some energy initiatives the Congressman was interested in.

Much of the legislative agenda for the Science Committee was set by the National Academies *Rising Above the Gathering Storm* report, the Council on Competitiveness *National Innovation Initiative*, and the President's *American Competitiveness Initiative*, which was introduced in his State of the Union Address. There were a number of hearings to support, and legislation to markup in Committee in areas such as Science Technology Engineering Math (STEM) education, and research, along with the Agency activities to implement the initiatives.

During the appropriations period, I had a chance to do the science oriented requests, and also some energy and armed services requests. It was interesting to see the lack of automation in Congress at work. Just before the cutoff time for appropriations requests, there are hundreds of interns roaming the halls delivering manila envelopes to the respective committees. I also experienced the lack of automation when I put an amendment together. This required the delivery of fifty six paper copies to the Rules Committee, which is tucked away in the top of the Capitol building. Submitting a bill is also a non-automated process, which involves dropping the bill in a wooden box on the House floor.

I had a trip to California and the district during a break. I was able to get to the local Boeing facility, to SpaceX, where I saw the remains of the failed Falcon launch spread out on the floor, as well as their assembly and test facility, and the mockup of their manned launch vehicle. The Jet Propulsion Lab (JPL) was impressive with their history and ongoing programs, the exploration cinematography was outstanding, especially the 3D animations of the planets and moons. I went up the coast for a middle of the night launch of the Cloudsat and Calypso satellites at Vandenberg Air Force Base; these were on a Delta II launch vehicle, which is managed by Boeing in the district. In the San Diego area I visited General Atomics to go over a high temperature helium gas reactor design, view a prototype maglev for potential applications in easing the congestion out of the Los Angeles and Long Beach ports, and saw their DIII-D fusion Tokamak. I was also able to visit Scripps Institution of Oceanography and review plans for the Southern California Ocean Observing System (SCCOOS), which will have installations in the district. With the visit to the district office, I came to the conclusion that fellows should spend more time in the district, this may be due to the fact that the office is across the street from the Huntington Beach, also known as "Surf City", pier and beach.

With gas and oil at record prices, it was no surprise that I got involved in a number of energy initiatives. The largest was investigating high temperature helium gas nuclear reactor technology. The Congressman is interested in the technology, both from an energy perspective, as well as its non-proliferation and spent fuel waste reduction aspects. This effort also gave me an opportunity to help set up a hearing in the Congressman's International Relations Subcommittee on the topic. The President's Advanced Energy Initiative, announced in his State of the Union Address spurred a number of energy related hearings and bills in the Science Committee.

Some of the tasks I got involved in were pretty far removed from the day to day work of an engineer, such as getting a call from the Congressman in California to draft a letter, and then see it hand delivered that evening to Bill Mahr on his television show, or putting together background information for the Congressman's appearance on a television documentary, and a kick off panel discussion in the Capitol, on Near Earth Objects (NEOs).

For the second half of the year, I'm looking forward to seeing the Bills which moved through the Science Committee make their way through the legislative process, especially during a mid-term election year.