

The talent, intellect, and entrepreneurial spirit of the American people have made this nation the leader in economic and technological advancements. American leadership is fueled by national investments in an educated and skilled workforce, groundbreaking federal research and development by the public and private sectors, and a steadfast commitment to being the most competitive and innovative nation in the world.

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Ensuring America's Competitiveness – Encouraging Innovation and the Development of Technology

Unfortunately, America's global leadership in technological advancement and innovation is being seriously challenged by other countries. To address the state of America's global competitiveness in science and technology, I worked with my colleagues on the Democratic Leader's task force to develop the Democrats Innovation Agenda - A Commitment to Competitiveness To Keep America #1. Working with leaders from the high-technology, venture capital, academic, biotech and telecommunications sectors, we identified and committed to the following priorities that will guarantee our national security and prosperity, expand markets for American products, and assert economic leadership

throughout the world:

- Create an educated, skilled workforce in the vital areas of science, math, engineering, and information technology;
- Invest in a sustained federal research and development initiative that promotes public-private partnerships;
- Guarantee affordable access to broadband technology for all Americans;
- Achieve energy independence in 10 years by developing emerging technologies for clean and sustainable alternatives that will strengthen national security and protect the environment; and,
- Provide small businesses with the tools to encourage entrepreneurial innovation and job creation.

In 2007, Congress passed and the President signed into law the [America COMPETES Act](#) which incorporated many important elements of the Innovation Agenda, recommendations included in the National Academies' report

Rising Above the Gathering Storm

, to strengthen our national economic competitiveness through investments in science, technology, engineering, and math (STEM) education, by setting our science research agencies on a path to doubled funding, and by addressing our need for innovation in energy research.

As a member of the Commerce, Justice, Science and Related Agencies and Labor, Health and Human Services, Education, and Related Agencies Appropriations Subcommittees, I am proud to have delivered on the funding needed to implement the America COMPETES Act in the years since its enactment and I plan to continue to do so.

In 2010, Congress passed and the President signed into law the [America COMPETES Reauthorization Act, H.R. 5116](#)

, to continue investing in American innovation. I was pleased that the bill included provisions to ensure coordination of federal Science, Technology, Engineering, and Mathematics education programs that I originally proposed in my

[Enhancing Science, Technology, Engineering, and Mathematics Education Act](#)

. I am continuing my work to improve STEM education in our country, including the development of excellent teachers, to ensure that we have the workforce needed to “win the future” as President Obama said in his 2011 State of the Union address.

New Media Working Group

Democrats have been at the forefront of using new media in politics for more than a decade and intend to stay on the cutting edge. That's why I helped create the Democratic Caucus New Media Working Group to give Members of Congress the tools they need to reach out to their constituents through the many avenues that new media offers. President Obama has set a great example for how useful the Internet can be in energizing supporters, informing the public and creating an open dialogue with the American people. Now, the American public expects (and deserves!) a government that uses these tools to give them opportunities to participate in all levels of the political process.

Nanotechnology

While serving as a member of the [Science Committee](#) , I enacted [legislation](#) to encourage the development of nanotechnology in the United States. The emerging fields of nanoscience and nanoengineering (collectively, “nanotechnology”), which allow the control of materials at the atomic level, are leading to unprecedented scientific and technological opportunities that will benefit society by changing the way many items are designed and made, in areas such as electronics, medicine, energy, biotechnology, and information technology. According to various estimates, including those of the [National Science Foundation](#) , the market for nanotechnology products and services in the United States alone could reach over \$1 trillion later this century.

Following enactment of this important bill, I convened the Blue Ribbon Task Force on Nanotechnology with State Controller Steve Westly. Throughout 2005 this distinguished group, whose diverse membership drew from academia, government, established industry, startup companies, consulting groups, non-profits, and industry associations throughout California, debated ideas and developed a series of policy recommendations that are included in the report [Thinking Big About Thinking Small](#) .

Many of these recommendations are reflected in a bill I introduced, the [Nanotechnology Advancement and New Opportunities \(NANO\) Act](#), designed to respond to the ways in which the field has evolved over the past few years. The NANO Act would focus America's nanotechnology research and development programs on areas of national need such as energy, health care, and the environment, and have provisions to help assist in the commercialization of nanotechnology. The bill also addresses the uncertainty that is one of the major obstacles to the commercialization of nanotechnology – uncertainty about what the health and safety risks might be and uncertainty about how the federal government might regulate nanotechnology in the future – by requiring the development of a nanotechnology research plan that will ensure the development and responsible stewardship of nanotechnology.

Other important areas that are addressed by my bill include:

- the development of curriculum tools to help improve nanotechnology education;
- the establishment of educational partnerships to help prepare students to pursue postsecondary education in nanotechnology;
- support for the development of environmentally beneficial nanotechnology; and
- the development of advanced tools for simulation and characterization to enable rapid prediction, characterization and monitoring for nanoscale manufacturing.

In the 111th Congress, Science and Technology Committee Chairman Bart Gordon introduced similar legislation, H.R. 554, the [National Nanotechnology Initiative Amendments Act](#). Incoming 112th Congress Science, Space, and Technology Committee Chairman Ralph Hall has indicated that a nanotechnology reauthorization bill is one of his priorities.

It is critical that we ensure that the development of nanotechnology is done responsibly. You can read a speech I delivered at the "[NanoWorld: Toward a Policy for the Human Future](#)" Conference to hear my thoughts on the promise of nanotechnology and the need to consider ethical questions as we move forward.

Network Neutrality

New technology often poses significant challenges to our laws and regulatory framework, and the Internet is no exception. In the early days, when most Internet connections were done through workplaces or through slow telephone connections, the rules were fairly clear and Federal law required non-discriminatory treatment of Internet traffic by telecommunications carriers. In 2005, however, the FCC re-classified broadband access to the Internet in a way that removed such legal protections, touching off a debate that has lasted for years about whether all traffic should be treated equal (so-called “Net Neutrality”) or whether some traffic should be given priority treatment.

I am concerned that such discrimination could lead to the degradation of the user’s experience and that some content providers who refuse to pay higher fees could find themselves at a competitive disadvantage against larger companies that can more easily afford preferential treatment. The Internet boom that drove growth in Silicon Valley was based on the concept that anyone could form a company and develop a website or online product that would be available to everyone, but in a world where network operators could limit access to certain websites, the playing field would no longer be level.

On August 9th, 2010, Google and Verizon publicly offered their joint policy [proposal](#) for an open Internet. I am glad that these industry leaders are contributing to the network neutrality discussion and that they say they support net neutrality. Unfortunately, their proposal does not protect open access for all who are connecting wirelessly, technology that is key to expanding broadband access to all Americans. Importantly, the proposal highlights the urgent need for appropriate federal oversight of an ever evolving Internet to ensure its open, fair, and equal access. Only then will the Internet’s potential to encourage freedom of thought and innovation be enjoyed by all Americans.

In December 2010, the FCC adopted net neutrality rules that would apply to traffic over optical fibers or cable into the home, but not to wireless broadband service. Some have argued that the FCC has gone too far and overstepped its authority, while others like myself believe that the FCC could have done even more to protect an open internet. This battle was fought out over an amendment offered to H.R. 1, the full year Continuing Resolution for Fiscal Year 2011, which sought to prohibit the use of any funds in the bill to enact the net neutrality rules adopted by the FCC. I voted against the amendment when it was proposed in the House, but it was included in the bill to be sent to the Senate by a vote of 244-181.

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