

here, but he is my friend, and I thank him for his courtesy.

I yield the floor.

The PRESIDING OFFICER. The Senator from New Jersey.

Mr. LAUTENBERG. Madam President, before the Senator from Delaware leaves the floor, I commend him for his arduous effort here on behalf of reminding the French Government that anti-Semitism is antithetical to a democratic society and to those with whom we have relationships.

Senator BIDEN has worked on this for several years, and he is a voice they will listen to. We commend him again for his thoughts and his remarks.

Mr. BIDEN. I thank the Senator.

(The remarks of Mr. LAUTENBERG pertaining to the introduction of S. 1882 are printed in today's RECORD under "Statements on Introduced Bills and Joint Resolutions.")

Mr. LAUTENBERG. Madam President, I suggest the absence of a quorum.

The PRESIDING OFFICER. The clerk will call the roll.

The legislative clerk proceeded to call the roll.

Mr. SPECTER. Madam President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

The Senator from Pennsylvania is recognized.

Mr. SPECTER. I thank the Chair.

(The remarks of Mr. SPECTER pertaining to the introduction of S. 1888 are located in today's RECORD under "Statements on Introduced Bills and Joint Resolutions.")

(The remarks of Mr. SPECTER pertaining to the submission of S. Res. 267 located in today's RECORD under "Submission of Concurrent and Senate Resolutions.")

Mr. SPECTER. I thank the Chair. In the absence of any other Senator on the floor, Mr. President, I suggest the absence of a quorum.

The PRESIDING OFFICER (Mr. ALEXANDER). The clerk will call the roll.

The assistant legislative clerk proceeded to call the roll.

Mr. ALEXANDER. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER (Mr. TALENT). Without objection, it is so ordered.

Mr. ALEXANDER. I ask unanimous consent that I be allowed to speak as in morning business for as long as I may require.

The PRESIDING OFFICER. The Senate is already in morning business.

#### AMERICA'S INVESTMENT IN SCIENCE AND TECHNOLOGY

Mr. ALEXANDER. Other than the war in Iraq, I suppose the subject we hear most about is jobs. We are worried, as are our constituents, about the future. How do we keep good-paying jobs? We are aware that in this country

of not very many people, compared to the rest of the world, we have about 25 percent of all the money in the world. We are a fortunate country.

How do we, as the country grows, and as we worry about global competition—especially about how China develops—keep our good-paying manufacturing jobs? How do we keep our standard of living? We have struggled through that for a long time. We have worried about it for a long time.

After World War II, we helped Europe get back on its feet through the Marshall plan and basically provided direct competition there, as the people making lower wages began to make some of the things we made. We struggled with Japan, worrying about whether the Japanese, in the 1980s, might take us over economically. But that didn't happen. We were able to keep our standard of living. We have watched Africa, the former Soviet Union, and other parts of the world grow and develop, even though people there were making much lower wages than Americans. We have been able to keep our standard of living.

I want to talk today about one major reason why we have been able to keep that standard of living and why there is a lesson for us for the future there. I want to talk about our investments in the physical sciences, about our investments in science and technology.

Last week Energy Secretary Spencer Abraham released an exciting 20-year plan for the future of scientific facilities in our country. This plan provides for an exciting future for science that will revolutionize science and our society. The plan includes participation in international collaborations to make fusion power a reality. It strengthens our scientific computing capabilities to develop advanced methodologies ranging from modeling chemical reactions to predictions of weather and climate change. It includes facilities to develop and characterize proteins for microbial research on a grand scale. These are just a few of the facilities that are included in Secretary Abraham's visionary plan.

This ambitious plan serves as a reminder that since World War II, according to the National Academy of Sciences, half of our job growth can be attributed to our investments in science and technology. This should also remind us, especially in this era of global competition, that future investments in science will be even more important. To create more good-paying jobs for Americans, I therefore recommend Congress and the administration do for the physical sciences what it has done in the last few years for the health and life sciences: double the Department of Energy's Office of Science funding, from the current \$3.3 billion to more than \$6 billion per year within the next 5 years.

Our investments in science and technology have continued to create a remarkable legacy of innovation. U.S. patent rates exceed most other indus-

trialized countries, a direct result of historically strong research and development investments and technological leadership. For example, in 1986, the United States had more than double the number of patents than the rest of the world, with nearly 80,000 patents granted. In 1999, the number of patents granted in the United States was over 160,000, while those in the rest of the world were less than 80,000. There were 160,000 in our country, 80,000 patents in the rest of the world. These patents, these innovations, led to new technologies and new jobs. Nearly 5.3 million new firms were launched between 1990 and 1998 that were mainly high-technology companies. Not all of them succeeded. But these new firms accounted for one-third of the 10 million new jobs created between 1990 and 1997.

However, last fall, the President's Council of Advisers on Science and Technology reported funding for research and development is becoming dangerously imbalanced. They recommended the funding levels for the physical sciences and engineering be improved and that funding levels be brought to parity with the life sciences. To correct this trend, we should increase the authorizations for a variety of scientific and technological endeavors at the DOE. The Department of Energy, through its Office of Science, is the largest supporter of physical science and engineering research and supports many of the federally funded research and development centers in our country. These centers are considered by many to be the crown jewels of the R&D enterprise in the Nation. These centers and our great research universities create the technology of the future that leads to the jobs of tomorrow.

Sometimes I think we take for granted these research universities and our great laboratories the Department of Energy runs. We not only have more of the great research universities in the world in our country, we have almost all of them. Nowhere in the world has national laboratories, such as Oak Ridge in my State, or Los Alamos, or more than a dozen others across our country. No other country in the world has the number of federally funded research institutions such as our laboratories that are operated by the Department of Energy, and the great research universities of America, which are funded to a great extent by Federal funding.

The Nation must have balanced investment to maintain the overall health of science and technology research. Recent funding increases in the National Institutes of Health and the National Science Foundation cannot compensate for the declines in funding at Federal agencies, such as the Department of Energy. Many of the advances in the health sciences could not have been realized without past investments in the physical sciences. Much of the basic work in the physical sciences, on which all other sciences, even the

biological sciences, are based, is supported by the Department of Energy. Harold Varmus, Nobel Laureate and former director of the NIH, summed up very nicely the unique relationship between the medical and physical sciences in an editorial in the Washington Post.

He stated in that editorial:

Medical science can visualize the inner workings of the body. . . . These techniques are the workhorses of medical diagnosis. And not a single one of them could have been developed without the contributions of scientists, such as mathematicians, physicists, and chemists supported by the agencies currently at risk.

Although this statement was made 3 years ago, it is still true today for the Department of Energy Office of Science.

The fundamental work in high energy and nuclear physics has led to a revolution in medicine. Our quality of life has been greatly improved with the advent of nuclear medicine. As President Bush recently acknowledged, one of every three hospital patients benefits from nuclear medicine. None of this would have been possible without the fundamental research of physicists in the last century and today, physicists who have been supported in large part by the Department of Energy and its predecessors.

Advances in magnetic resonance imaging—we call it MRIs in everyday language—could not have been possible without the development of superconductors. Small electron linear accelerators are used in hospitals every day to treat cancer patients. Yet this would not have been possible without our investments in science.

Likewise, the development of laser and optics technology has led to a revolution in medical procedures. Surgeries, such as gall bladder removal, that were once invasive and required weeks of recovery, can now be performed with a minimal incision and require minimal recovery time. None of this would have been possible without the basic research performed by scientists at our research universities and National Laboratories funded by our Federal investments in science and technology.

We are advancing even further than once imagined, thanks to these investments in science. The Department of Energy is leading the way in developing materials for creating the artificial retina. The development of an artificial retina requires new and innovative materials, research, and nanoscale fabrication techniques that are on the forefront of science.

Preliminary models of the artificial retina have enabled patients to see for the first time. I saw some of that research being done at Oak Ridge. Although these patients did not regain full sight, this is just the beginning. This research caused three patients to see for the first time. With advancements in materials and fabrication techniques, sight may eventually be re-

turned to those who cannot see. This is truly amazing. We are just at the edge of what science can do.

The physical science and engineering will also play a major role in advancing technology for homeland security. The development of detection systems for chemical, biological, radiological, and nuclear weapons will require investments in science and technology. Crisis response technologies and analyses will also be dependent on science and engineering. The daunting challenges of developing countermeasures for chemical, biological, radiological, and nuclear weapons will be addressed in large part by the development and application of our scientific capabilities. Our Nation has no choice. We must invest heavily in physical sciences and engineering to stay competitive in these fields. Our competitiveness is greatly impacted by the number of graduate students entering these fields.

A definite correlation exists between the number of graduate students enrolled in science and engineering and the funding levels for these fields. The funding levels for the medical sciences have increased more than 20 percent over the past decade, and graduate student enrollment has increased more than 40 percent. However, there were 20 percent fewer graduate students in physics and 9 percent fewer in chemistry in 2000 than in 1993 while the mathematical sciences had 19 percent fewer graduate students. These trends cannot be allowed to continue.

Science and technology are an integral part of our everyday lives. To sustain our Nation's technical and scientific leadership, we must support increased authorizations for our science programs. The Energy bill reported out of conference will help put our Nation on the path to sustained economic growth. But the Energy bill is not just investing in science; it is investing in jobs.

The quality of our lives and the prosperity of our Nation will be greatly enhanced and made better if we agree over the next 5 years to do for the physical sciences what we have done for the health sciences—double our spending—according to the visionary plan that the Secretary of Energy laid out for the next 20 years.

Thank you, Mr. President. I yield the floor.

#### SPECIAL BIRTHDAYS

Mr. BURNS. Mr. President, this is a special day today. I just want to take note of it now. It is a special day, the birthday of someone Americans all know. He is one of our senior citizens who has his birthday today. When this animated character burst on the scene, it changed our country. That change was bound to happen because of his appeal to the young and the old. He has changed the way we communicate. He has changed the way we travel.

He is just a little fellow, but size has meant nothing to this animated char-

acter. He has always held that it is not the size of the dog in the fight but the size of the fight in the dog.

He has changed our attitude on how we solve our problems and most times taught us to laugh at ourselves and lighten up on ourselves. He has entered our lives and he has changed us all, from the young to the old.

Today is the birthday of Mickey Mouse. It is also shared by our good friend, the President pro tempore now in the chair, Chairman STEVENS.

I yield the floor.

#### HONORING OUR ARMED FORCES

Mr. JOHNSON. Mr. President, I rise today to pay tribute to Chief Warrant Officer Two Scott A. Saboe, a resident of Willow Lake, SD, who died on November 15, 2003, while serving in Operation Iraqi Freedom.

Chief Warrant Officer Two Saboe, a member of A Company, 4th Battalion, 101st Aviation Regiment, 101st Airborne Division, was based out of Fort Campbell, KY. He was among 17 soldiers killed when two Army Black Hawk helicopters collided midair in the northern Iraq city of Mosul.

Answering America's call to the military, Chief Warrant Officer Two Saboe had planned a military career since attending high school at Willow Lake, SD. A member of the football, basketball, and track teams, friends remember him as a serious and committed person. Chief Warrant Officer Two Saboe's former coach and teacher Bill Stobbs said that "he died doing what he loved, and he was a dedicated soldier." His childhood friend, Darin Michalski, knew that "he was giving his all and believing in what he was doing."

For all of Chief Warrant Officer Two Saboe's commitment to public service, nothing was more important than his family. The 33-year-old leaves behind his wife Franceska and 6-year-old son, Dustin, as well as his sister Ann Remington, who is stationed at Walter Reed Medical Center in Bethesda, MD. He also leaves behind his father, Arlo Saboe, a decorated Vietnam war veteran, in addition to his proud, extended family and countless friends.

Chief Warrant Officer Two Saboe served our country and, as a hero, died fighting for it. He served as a model example of the loyalty and dedication in the preservation of freedom. The thoughts and prayers of my family as well as the rest of the country's are with his family during this time of mourning. Our thoughts continue to be with all those families with children, spouses, and loved ones serving overseas.

Chief Warrant Officer Two Saboe led a full life, committed to his family, his Nation, and his community. It is his incredible dedication to helping others that will serve as his greatest legacy. Our Nation is a far better place because of Chief Warrant Officer Two Saboe's life, and, while his family, friends, and