(May 10, 2008) Lipinski Delivers UIC College of Engineering Commencement Speech

Congressman Dan Lipinski (IL03)

UIC Commencement Address

College of Engineering

Saturday May 10, 2008

In June 1988, almost twenty years ago, I was sitting in a university arena, waiting to be awarded my engineering degree. But I have to be honest, I cannot tell you what that keynote speaker said that day or even who that keynote speaker was. While it would be nice if you remember my speech twenty years from now – or twenty minutes, what I really hope is that in some way I inspire you to take on one of the major challenges this nation and our world face today.

I often tell my audiences before I begin a speech that I am currently a politician, and politicians are known to be a little long-winded. After all, it was the wind coming out of the mouths of politicians that gave Chicago the name the "Windy City." And before I was a politician I was a professor who taught three hour classes. I say that so you will appreciate that this speech only lasts about 10 minutes.

I first want to start by saying "Congratulations" to all the graduates. As a fellow engineering degree holder, I appreciate all the hard work it takes to earn this degree. And I also want to congratulate all the parents, grandparents, brothers, sisters, aunts, uncles, spouses, and other family members and friends who are here today, because your support has played an important part in this achievement. No one – no matter how smart or how hard they work – ever accomplishes anything on their own. I hope that is something that none of us ever forget.

As was mentioned, I have two engineering degrees. I am one of only 9 members of Congress to have a degree in engineering. By contrast, there are more than 200 members of Congress with law degrees. Not that there is anything wrong with being an attorney – my mother and my sister both have law degrees. But engineers have a different way of thinking, and I like to believe that our country would be better off if we had a few more engineers making our public policy.

But I do have to disclose that I did not continue to be a practicing engineer. I decided that I wanted to earn a PhD so that I could teach at the college level. I chose to get a PhD in political science, because I have always understood that politics allows individuals to make a positive difference. My first political activism came at a young age. When I was 11 or 12, I printed up some petitions asking the Japanese government to stop tuna fishers from killing dolphins. I went out and collected signatures in front of Jewel food stores, at Brookfield Zoo, and other places, and then sent these to the Japanese Embassy in Washington. Today, many years later, if you buy a can of tuna you will likely see a label saying "dolphin safe." I was but one of very many voices on this issue, but I learned that it is possible to bring about positive change.

After I got my degree in political science and was an assistant professor, people would ask me whether my background in engineering helped me in any way as a political science professor. I would say that it helped me be a much better researcher because it taught me how to solve problems. After all, engineering is problem solving. Most people think engineering necessarily has to be about solving physical problems. But doing my research as a political science professor was also engineering – trying to solve, or explain, the many puzzles of the political world. My

background as an engineer gave me an advantage over other political scientists who did not have the analytical problem solving background to help them conduct research.

I taught as an assistant professor for a few years but I was still interested in having a direct impact on public policy, so when I had the opportunity I ran for Congress in 2004. After winning the election, one of my top priorities was to secure a seat on the Science and Technology Committee, and I was successful in doing that in my first term. Now in my second term, I was chosen to serve as Vice-Chairman of the Committee.

As a member of Congress, the problem solving I do involves national policy. My training as an engineer not only gives me the problem solving background, it also provides me with a deeper understanding of the critical role that science, technology, engineering, and math – commonly known as the STEM fields – will play in making America more globally competitive and in solving some of the major problems we face nationally and globally.

A couple years ago, Congress got a harsh wake up call in a landmark report entitled " Rising Above the Gathering Storm." Essentially, the report said that the scientific and technological building blocks critical to America’s economic leadership are eroding at a time when many other nations are gathering strength. We had become so comfortable with our position in the world that we lost touch with the core essentials necessary to continue our prosperity.

The good news is that we still have time to fix the situation. But we are at a crossroads. The key is ensuring that new generations fill the science, technology, engineering, and math pipeline and enter these fields at increasingly higher rates.

Last year, Congress – led by my Science Committee – stood up to this challenge to promote STEM education. The America COMPETES Act became law, doubling National Science Foundation funding over the next 10 years, expanding existing STEM education programs, and establishing several new STEM programs. The Noyce Teacher Scholarship Program will help create thousands of new teachers in math and science. The STEM Talent Expansion program will help increase the number of students receiving degrees in these fields. Professional development will be provided to teachers through Math and Science Education Partnerships. And our next generation of scientists and engineers will be aided through awards given to outstanding early-career researchers, graduate research assistantships in areas of national need, and the establishment of a national coordination office to prioritize university and national research infrastructure needs.

I am hopeful that some of you will take advantage of these new opportunities we have created and either become researchers who develop the next generation of technology or teachers who help lead the next generation of students. But everyone needs to play a role, because there are so many challenges that we face.

I believe that the greatest challenge America faces is improving energy efficiency and developing clean, alternative sources of energy that will free us from our dependence on foreign oil and will combat global climate change. This will not be a simple task, instead requiring major changes in policy including vast, long-term investments in science and engineering that will lead to the development of innovative new technologies. These new technologies will depend on quality engineers and an engineering focus to provide cost effective and innovative solutions.

An important first step in changing policy toward this goal was taken last December with the enactment of the Energy Independence and Security Act. This sweeping energy plan will revolutionize America’s energy economy, help free us from our dependence on foreign oil, create millions of new jobs, and reduce the threat of climate change. The Act increases Corporate Average Fuel Economy (CAFE) standards to 35 mpg for cars and trucks by 2020. It also calls for a robust increase in the production of renewable motor fuels such as ethanol and biodiesel, and increases the energy efficiency of buildings, homes, appliances, and lighting. In addition, the new law establishes job training to prepare workers for 3 million new "green" jobs over the next 10 years.

I also contributed two provisions to this bill. The H-Prize Act provides $50 million in competitive cash prizes for advances in the use of hydrogen as a clean replacement for gasoline. Hydrogen powered cars already exist, but technological advances must be made in order to create an affordable hydrogen car economy. The H-Prize is a unique way to provide an incentive for future R&D. The second provision is the BRIGHT Energy Savings Act which requires the use of high efficiency light bulbs throughout federal government facilities. These lights use up to 75 percent less energy, saving energy, cutting down on harmful emissions, and saving taxpayers tens of millions of dollars.

These new laws will play an important role in our transition to a more energy efficient and energy independent economy. But much more needs to be done. I am hopeful that maybe one of you may help find the key technological advance that will transform our energy economy, and improve our national security, economic security, and environmental security. America, and the world, need you to put your talents to work.

Whether you are getting your degree in bioengineering, electrical and computer sciences, chemical engineering, mechanical and industrial engineering, or civil engineering, I applaud you for your diligence thus far, and hope you recognize the opportunity for you to make a real difference in this country and in the world.

No matter what you wind up doing with your life after you graduate, you are off to a great start with your engineering degree from UIC. You have worked hard, jumped through lots of hoops, and probably learned more than you realize right now. But after I have talked about the importance of having more engineers, I don’t want anyone here to feel that I think you have turned to the "dark side" if you do not go in a career in engineering. One time during a hearing of the Science Committee we were discussing how important it is for America to have more people in the STEM fields. One of my colleagues made a joke that I had turned to the "dark side" by leaving engineering. But one of the expert witnesses at the hearing stood up to my defense. He said that it would be very beneficial to America to have more engineers in other fields, especially government. Many other countries around the world, especially in Asia, have a good number of engineers serving in government, and America would probably be better off if we had more. So some day, maybe some of you will join me in public service, maybe in Congress. But whatever you do, be thankful of the opportunity you have had here, be proud of your accomplishments, and do what you can to give back to your community and the world.

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