Testimony of Darla Whitaker, Senior Vice President, Worldwide Human Resources, Texas Instruments

on behalf of the

Semiconductor Industry Association

before the

US House of Representatives Committee on the Judiciary, Subcommittee on Immigration Hearing on:

"STEM the Tide: Should America Try to Prevent an Exodus of Foreign Graduates of U.S. Universities with Advanced Science Degrees?"

Chairman Gallegly, Ranking Member Lofgren, Chairman Smith, Ranking Member Conyers, Members of the subcommittee, I am Darla Whitaker, Senior Vice President for Worldwide Human Resources at Texas Instruments. I am also representing the views of the Semiconductor Industry Association which is a member of Compete America. Thank you for inviting me to speak to you today about how best to retain the talent of U.S. university graduates holding advanced degrees in Science, Technology, Engineering and Math (STEM) fields.

Over the course of my testimony I plan to tell you a bit about TI, our hiring practices and needs and suggest some ways in which Congress can help ensure that companies like TI can have access to the best minds emerging from US universities.

About Texas Instruments

While many people think of calculators when they think of TI, our primary business is to design and manufacture semiconductors –or chips. We are, in fact, the world's 3rd largest semiconductor company. Chips are the engines, "the building blocks" if you will, of all electronic devices and machines. Semiconductors have fundamentally changed the way people around the globe work, learn and play. They have driven unprecedented productivity across every sector of the economy and have enabled the development of numerous new industries over the last 50 years.

Chips are in every electronic product, including computers, appliances and automobiles, agricultural machinery and aircraft. They are the "smart" in smart grids, appliances, and smart phones. We are driving solutions to some of the world's most pressing challenges in energy efficiency, heath care and national and homeland security.

Texas Instruments is a global company, with manufacturing, design and sales operations in more than 30 countries and approximately 34,500 employees worldwide. In Texas, we have 10,400 employees. And with our recent acquisition of National Semiconductor, we now have a bigger footprint in Silicon Valley, as well.

Innovation is the cornerstone of our company. Founded in the 1930s as a geophysical exploration company that took used seismic signal processing technology to detect oil deposits, we have reinvented ourselves numerous times over the course of our history.

Over the last three years alone, we've invested $5 billion in research and development. TI's comprehensive innovation strategy includes funding and collaborating with universities and industry consortia, incubating breakthrough ideas in our own Kilby Labs, executing competitive roadmaps within TI's business units and specialized labs, and developing world-class manufacturing technologies.

Texas Instruments has over 60,000 products and releases about 900 new products per year. Our engineers have developed more than 38,000 patents issued worldwide. More than 1,200 of those patents were issued in 2010.

Hiring at Texas Instruments

Innovation requires innovators. TI is fundamentally a company of engineers and scientists. Electrical engineers, in particular, are the life blood of our industry whether they are designing, manufacturing or selling our products.

To find those innovators, TI recruits heavily at top US engineering universities. We recruit the best engineering students, looking not only at their grades, but also to their creativity, community involvement and leadership skills.

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The competition for these graduates is stiff. Most of the students to whom we make offers have other job offers, often from our competitors.

To find the best students, we work hard to develop relationships with top engineering universities. We build ties with student organizations, attend campus career fairs, and offer highly competitive internships, and support university research in partnership with Federal and State funding. We have an active co-op program that provides summer jobs to engineering students to help us identify top talent early.

TI has recently increased the number of engineering interns by nearly 60 percent. These candidates get to stand side-by-side with TI's best engineers and innovators and do hands-on, real world engineering. Our internship program also gives TI the chance to evaluate these rising talents and see if they have the creativity to be TI innovators. Currently about 40 percent of our new engineering hires now come from our internship program and we hope to move that up to 60-75 percent.

Texas Instruments' goal is to hire the best engineers and innovators from U.S. universities and to retain them. We do not choose where those engineers were born or what their citizenship is. We choose the best, the brightest and the most creative engineering graduates.

But as this Committee knows, in the past two decades we have seen some alarming trends. While the vast majority of BSEEs graduating from U.S. universities are American citizens, the numbers are significantly different at the graduate level.

The majority of those graduating from U.S. universities with advanced degrees in electrical engineering (EE) are foreign nationals. Of EEs graduating from U.S. universities with Master's degrees, 55% are foreign nationals. Of PhDs, 63% are.

TI doesn't choose the pool of graduates, we recruit from it.

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Perhaps most significantly, while unemployment is high generally in the U.S., in engineering, it is not. Recent Labor Department statistics place the unemployment rate for electrical and electronics engineers at 3.7%. The competition for STEM talent is tight.

What Congress Can Do

TI hires at all spectrums of the university engineering education continuum – from associates at community colleges to PhDs. It is for these upper level degrees that we have regularly found ourselves coming to Congress to seek help in enabling us to hire this highly educated talent.

We want these individuals to join our company, not on a temporary basis, but as permanent employees to provide long term value to our shareholders, customers and community. The current system in which they must first obtain an H-1B visa and then wait for years – sometimes up to a decade for a green card is frustrating for them, limits employer flexibility, and diminishes productivity. While our employees wait – and wait – for their green cards, their ability to be promoted or change jobs is limited.

The current immigration system allocates insufficient numbers to allow engineers and innovators to get green cards in a reasonable amount of time.

The current system also places an arbitrary cap that limits the number of immigrants from any one country to seven percent of the total number of immigrant visas issued each year. This "per country limit" has led to long wait times for our employees – reaching to more than nine years for Indian nationals in the third employment preference.

This is not sustainable. It hurts our company and our industry. It places unnecessary burdens and stresses on our employees. It harms American competiveness, even as other countries move to provide easier paths to permanent residence for STEM graduates.

It is also easily fixable.

We believe that a more direct path to obtaining a green card is optimal for these advanced degree innovators. A bill to increase the number of green cards available to graduates of U.S. universities holding advanced degrees in STEM would alleviate the long backlogs our innovators are stuck in, and would allow TI and the semiconductor industry to recruit and retain top talent more competitively.

It is imperative that the increase include not only PhD graduates, but Master's STEM graduates, as well. MSEE's are critical to innovation. While more PhDs may have their names on our 38,000 patents, much of the work is done in collaboration with our engineers with Master's degrees. And others are producing patents on their own.

For example, Sameer Pendharkar, a TI Fellow in our Analog Technology Development group has a Masters in electrical engineering and has produced over 50 patents for TI. Two years ago, he was recognized by The Academy of Medicine, Engineering, and Science of Texas (TAMEST) as the recipient of their prestigious Edith and Peter O'Donnell Award, established to acknowledge achievements by young researchers in these disciplines. We have many other examples.

Among our foreign nationals who would qualify under a STEM bill for employees who graduate from U.S. universities with advanced degrees, the ratio of Master's level engineers to PhD engineers is at least four to one.

By modestly increasing green card numbers to allow employers to sponsor graduates of U.S. universities holding advanced degrees in STEM fields, Congress would vastly improve American competitiveness and secure our place as the world's innovation leader. This narrowly drawn, targeted approach will give employers like TI a more effective, timely way to sponsor

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advanced STEM graduates so they can apply their skills directly, here in the US, to innovating and creating a better future.

We also support H.R. 3012, the Fairness for High-Skilled Immigrants Act, which was recently introduced by Representative Chaffetz. That bill would eliminate the per country limit over a three year period and help rationalize the green card system.

We strongly encourage the Congress to urgently take up and pass legislation that would allow employers like Texas Instruments to more competitively recruit and retain graduates of U.S. universities holding advanced STEM degrees.

While we seek these changes, TI is very focused on increasing the pipeline of American born students receiving engineering degrees. That is why we are so passionate about university research funding and STEM education.

STEM education is our top philanthropic priority. In the past five years we've invested more than $150 million through TI and the TI foundation to support education at the K-12 and university levels. In addition, TI's employees invested countless volunteer hours in advancing STEM education in local schools and civic organizations. Our aim is to build an ecosystem of innovation by supporting student achievement, teacher effectiveness, and diversity, in STEM.

Among the initiatives we've undertaken is "Visioneering," a unique, annual event held at Southern Methodist University (SMU) during National Engineers Week. Since 2001, Visioneering has brought together approximately 9,000 middle school students and teachers, working engineers and innovators to explore how and why engineering makes a difference in the world around us.

We've also supported The Advanced Placement Incentive program that has had extraordinary results in increasing the number of underrepresented students taking and passing

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AP math and science tests, the UTEACH program that trains effective math and science teachers, the National Society of Black Engineers (NSBE), the Urban League, and, through the Women of TI Fund, High-Tech High Heels, to support and increase gender equity and diversity, along with innovation in STEM fields.

The point is this, engineering, math and science skills are critical to innovating and competing globally, and we need a well-educated technical workforce. I have provided a more complete listing of our activities in this area for the record.

At TI, we know that, to be successful and compete in our global market, we need the best, brightest and most innovative engineers. It's the foundation of our success and the success of the entire semiconductor industry.

Thank you for your time and attention, and for the opportunity to speak today on this important subject. I look forward to answering any questions you may have.