

**Dr. Peterson**

**Georgia Cyber Academy**

1-2 p.m. Thursday, April 10, 2014, President's Office

**Three main points:**

- **Why is it important for students to pursue rigor and challenge themselves prior to college?**
  - Curriculum builds. For example, math classes from middle school on.
  - Importance of learning study skills early. You work collaboratively in college, but you have a great deal of independence.
  - Not so much what you learn as knowing how to find the answers, and learning to solve problems.
  - Technology that is current when you enter will be outdated when you graduate.
  - Need to learn skills to solve problems now and in the future.
  - “I am tall video.” Students who come to Georgia Tech are smart.
  - 25,000 applicants for 2,400 positions.
  - Distinguishing yourself: leadership activities in your church, community.
  - You are responsible for making the most of your educational investment, now and once you get to college.
  - We encourage innovative thinking. InVenture Prize example. This year's winning team: an inexpensive, mobile solution to help nearly 2.6 billion people worldwide who don't have access to hygienic bathrooms. \$20,000, patent filing help, \$5,000 People's Choice Award, a spot in Flashpoint, Georgia Tech's Startup Accelerator.
  - InVenture gives student competitors an experience like the kind lived by entrepreneurs in the marketplace.
  - Last year's runner up: AnemoCheck. Erika Tyburski, earned her BS in biomedical engineering from Georgia Tech in 2012. She began working on AnemoCheck as part of her senior design project. She had experienced anemia herself. She has a global mission: her research showed that 30

percent of the world's population experiences anemia at some point. Her second place award in InVenture was \$10,000. She also won Georgia Tech's Ideas to Serve competition. She expects the FDA approval process on her device to take less than 2 years. She plans to first focus on generating profits in the U.S. Then, AnemoCheck would leverage that revenue to make the test affordably accessible in developing countries. She spent a year working with the Global Center for Medical Innovation to develop a prototype of her invention. Her first functioning prototype was printed on a 3-D printer at GTMI.

- While in high school: Each summer, a number of high school students join Georgia Tech students in the Invention Studio for Makers Camp, building devices like a quad copter, a basic helicopter model that actually flies.
- **What are the biggest challenges and opportunities for students today who are interested in STEM?**
  - Very promising career opportunities in STEM
  - iPhone example, Steve Jobs at Apple. The components weren't invented at Apple. They were invented at universities and in labs around the country. Apple put them together.
  - Joint op-ed with Penny Pritzker, Sec. of Commerce, on STEM opportunities in manufacturing. Manufacturing has an image problem. While 70% of Americans view it as the most important industry for a strong economy and a national defense, only 30 percent of parents encourage their children to pursue a manufacturing career. That may be because the word "manufacturing" still conjures up in some minds the image of an untidy factory floor full of dirty, dangerous, and repetitive jobs.
  - That image is grossly outdated. In truth, many manufacturing facilities in the U.S. today are cleaner than most offices or doctors' waiting rooms. They are gleaming showrooms of the latest technologies. They are staffed by highly-skilled and well-educated professionals producing the most exciting

breakthroughs of our time, such as advances in robotics, automation, and 3D printing.

- Print me a bicycle example.
- Also, facts from being on the National Science Board—global competitiveness.

- **What are you most excited about for Georgia Tech's future?**

- Last fall we celebrated the 10<sup>th</sup> anniversary of Technology Square on the east side of campus. It is an exciting, innovative environment, and students have been participating in it. We're partnering with business and industry. Businesses are setting up innovation centers there. They really like working with our students. It's been compared to Silicon Valley. Great opportunity.
- Engineered Biosystems Building—opportunity for collaboration.
- In the coming decades, our society will face the multifaceted challenges of providing energy, sustainable food sources, and cost-effective, accessible health care for 9 billion people worldwide. The complexity of these challenges will require solutions that draw on research conducted at the intersection of the life sciences, the physical sciences, and engineering: a concept called convergent science that is currently being promoted by the National Academies and the White House Office of Science and Technology Policy.
- Georgia Tech is poised to be a national leader in convergent science and technology and is already recognized as a place that effectively brings together people from different disciplines to solve important problems.
- As an example, the Petit Institute for Bioengineering and Bioscience, includes 140 faculty and nearly 1,000 graduate students from 10 different academic units. The new Engineered Biosystems Building has been designed to expand this successful model by providing open labs and shared core facilities for interdisciplinary research teams. Many of the new breakthroughs will come at the intersection of disciplines. Students are important members of these teams.

- I'm excited about the young people who are coming to Georgia Tech, and the experiences they have while on campus, and the young adults they become.
- Nick Selby example. 6 million views across multiple platforms. "You can do that. I am doing that."
- In an interview by Fox News, Nick was told he could become a motivational speaker. In fact, he just spoke to a group in Hawaii a week or so ago, but he's still a student at Georgia Tech, completing his sophomore year in Mechanical Engineering. When answering the question on the media interview, Nick said, "I want to be an engineer." I was proud of him.
- His sophomore speech at freshman convocation last August was done in humor, but it has an element of truth. If you apply yourself and take full advantage of the opportunities before you, the future is limitless.