

Dr. Peterson

Nuclear Engineering 50th Anniversary

8:30 a.m. Thursday, Nov. 1, 2012, Klaus 1116

Thank you Bill (Stacey). Today we're celebrating a half-century of Georgia Tech's role in nuclear energy research, innovation, and education, and we're honored that so many of our partner organizations, as well as faculty, staff, and students could join us.

Georgia Tech's commitment to nuclear energy in 1962 shows a great deal of vision. Last weekend we celebrated Tech's homecoming, which included special reunions for the 50th, 40th and 25th anniversary classes. With each of these classes, I shared some of the things that were going when they were in school. I thought it would be interesting to point out a couple of the 1962 happenings this morning to set the context. 1962 was the year of the Cuban missile crisis and John Glenn orbited the Earth for the first time in history. In July of 1962 Tech's School of Nuclear Engineering became a degree-granting department, but it could only grant graduate-level degrees. Today Georgia Tech has a very strong research and education program in nuclear energy, offering bachelor's, master's and PhDs degrees in nuclear and radiological engineering that prepare tomorrow's leaders in the field. As part of our Sustainable Nuclear Power Initiative, faculty and students are engaged in multidisciplinary research that helps to address the grand challenges and current major issues in nuclear energy such as simulating nuclear systems, closing the nuclear fuel cycle, improving safety of nuclear reactors, addressing the management of long-term nuclear waste, improving security and safeguards of nuclear material, developing advanced material (such as accident tolerant fuel), and providing energy from fusion.

In 1962 Georgia Tech had a student body of 6,000, which included just 52 female students, or 1 percent. Today, we have 21,500 students, and about a third are women. In fact, we are the top producer of women and underrepresented engineers in the country, including some outstanding women in nuclear and radiological engineering.

The 2012 freshman class at Georgia Tech is the largest, best qualified and most diverse in Tech's history. We need bright students in the nuclear engineering field to address the energy needs of the future where nuclear energy will no doubt play a bigger role. We're preparing students to be innovators and leaders helping to find solutions for many of the world's global challenges, like sustainable energy.

Georgia Tech students benefit from interaction with outstanding faculty in the field, and they enjoy the hands-on opportunities they are afforded in research. When they graduate, they are highly marketable. Georgia Tech nuclear engineering graduates are highly sought after in the nuclear power industry, in the radiological engineering industry, at DOE National Labs, the Nuclear Navy. Many of them go on to graduate school to pursue research. As in many other specialty fields, the current workforce is rapidly retiring, and there is international growth as well as anticipated growth in job demand in the U.S.

You may have seen in the news that a *SmartMoney* survey of recent graduates found that Georgia Tech is No. 1 in the nation in return on investment. Nuclear engineering salaries are currently among the highest in the engineering field.

In May 2012, Georgia Tech was awarded \$3.1 million from the U.S. Department of Energy for research and scholarships focused on nuclear energy. It was the largest of its kind this year among U.S. nuclear engineering programs. The grant is supporting three research projects at Georgia Tech focused on developing new and advanced nuclear reactor designs and technologies, while addressing their cost, safety and security.

This month Georgia Tech was also awarded a \$6 million research project to develop a high power water reactor with inherently safety features that will go beyond the capabilities of current advanced passive systems.

The need for new and sustainable power is growing. Efficient energy generation is the goal of every industrialized nation. Nuclear energy has again emerged as an important source of power generation, due to its emission-free energy - the absence of air pollution and greenhouse gases, and lower volume of waste, coupled with low operation costs.

On Monday (Oct. 29) Public Service Commission Chairman Tim Echols spoke at Georgia Tech as part of the third-annual France Atlanta Nuclear Conference. He said Georgia and South Carolina could become the Silicon Valley of the nation's nuclear power industry with one change. He proposed that instead of stockpiling spent fuel rods and storing them onsite while building a central storage facility, we could recycle them as the French do. By sharing ideas and through global collaboration, we are developing and actualizing innovative new energy resources that will fuel the needs of a clean, contemporary society.

Georgia Tech is honored to collaborate with organizations including the U.S. Department of Energy, Argonne Laboratories, the Oakridge National Laboratory, and corporations like the Southern Company, GE, Westinghouse and other nuclear industries to advance research, education, and innovation in the nuclear engineering field. While we pause to look back on the accomplishments of the last half-century, this event was designed as a national forum to hear expert views, looking to the future of nuclear engineering, and our important role, together. Thank you for joining us today, but more importantly, thank you for your ongoing partnership.