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PEOPLE: *Three degrees in four years for Ridgefield man*

By Gabrielle M. DeMarco, RPI

Matthew Pelliccione came to Rensselaer Polytechnic Institute as a freshman in 2003. After only four years, he is leaving with two bachelor's degrees, a master's degree, and a set of prestigious fellowships to continue studying physics at Stanford University.



Mr. Pelliccione, who will participate in Rensselaer's 201st Commencement on May 19, was raised in Ridgefield, where he graduated from Ridgefield High School. He was interested in science from a very young age, but it wasn't until high school that he was first exposed to Einstein's playground — physics. It didn't take long for him to uncover his future career.

While at Rensselaer, he worked on research projects in the field of nanotechnology under the mentorship of Toh-Ming Lu, the R.P. Baker distinguished professor of physics. His research examines the physics of building nanostructures using novel nanofabrication techniques, including sputter deposition and chemical vapor deposition. His advances could allow researchers and companies to better control the growth of nanostructures, enabling them to build more efficient semiconductor devices and optical or magnetic coatings.

Musician, too

But Mr. Pelliccione is more than just a talented scientist. He is a concert-trained violinist who manages to squeeze Beethoven and Bach in between long sessions in the lab. He has played the violin since elementary school and is still performing in the RPI Symphony Orchestra.

After receiving a degree in both applied mathematics and physics in just three years, Pelliccione went straight through to begin working on his master's in physics.

His hard work has earned him a much-sought-after National Science Foundation Graduate Research Fellowship and the prestigious Fannie and John Hertz Foundation Fellowship, an honor extended to only 15 students across the nation. Combined, these fellowships will provide him with full tuition and a \$33,000 stipend every year for five years to pursue his research interests at Stanford University.

New frontiers

Matthew Pelliccione is planning to do graduate work at Stanford.

While at Stanford, Mr. Pelliccione plans to move his research away from fabrication to look more at one of physics' new frontiers low-dimensional electron systems. These nanometer-scale structures produce complicated electron behavior as a consequence of quantum mechanics, the much-touted theory from physics that explains the inherent "weirdness" of the atomic realm.

Mr. Pelliccione hopes to use his burgeoning skills to advance this very promising research frontier, which could lead to advances in everything from medicine to computing. His ultimate goals are to work in private industry, leading research and product innovation for a high-tech company.

Rensselaer Polytechnic Institute, founded in 1824, is the nation's oldest technological university. The university offers bachelor's, master's, and doctoral degrees in engineering, the sciences, information technology, architecture, management, and the humanities and social sciences. Institute programs serve undergraduates, graduate students, and working professionals around the world. Rensselaer faculty are known for pre-eminence in research conducted in a wide range of fields, with particular emphasis in biotechnology, nanotechnology, information technology, and the media arts and technology. The Institute is well known for its success in the transfer of technology from the laboratory to the marketplace so that new discoveries and inventions benefit human life, protect the environment, and strengthen economic development.

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[Top of Page](#)

[Close Window](#)