

# Elizabeth Kowalski

"Elizabeth"



**Graduate Institution:** Massachusetts Institute of Technology

**Location:** Cambridge, MA

**Graduate Discipline:** Electrical Engineering

**Hometown:** Beaver, PA

## Research Interests:

*In general, electromagnetic applications and plasma physics. Specifically, high-power high-frequency (100 GHz) vacuum electronic devices, the 170 GHz ITER transmission line system, gyrotrons, and Traveling Wave Tubes (TWTs).*

## About me:

*I am an electrical engineer who would like to, eventually, be a professor of engineering and direct my own research. Currently, I am a graduate research assistant in the Waves and Beams Division of the MIT Plasma Science and Fusion Center. My Master's work is on the ITER transmission line system for electron cyclotron resonance heating, and my thesis will be titled "Miter Bend Loss and Higher Order Mode Content Measurements in Over-moded Millimeter-Wave Transmission Lines." My Ph.D. research will be focused on building a 94 GHz Traveling Wave Tube Amplifier.*

*I earned my B.S. in Electrical Engineering from Penn State University in 2008, where I graduated with highest distinction and as a Schreyer Honors College Scholar. My undergraduate Honors thesis was titled "Efficient Corona Models in Spherical Geometry for Lightning Protection Applications." As an undergraduate, I participated in the Society of Women Engineers (SWE) and was an officer in the Three Broomsticks, a student group which appreciates the works of J.K. Rowling. For three years, I was a mentor for first-year students in the Schreyer Honors College. I interned at Beaver Valley Nuclear Power Station, FirstEnergy's Met-Ed Utility Operating Company, and Lockheed Martin Systems Integration. In my senior year, I was an Undergraduate Researcher at Penn State's Communications and Space Sciences Laboratory.*

*As a graduate student, I am involved in the Graduate Women of Course 6 student group and served as co-president in 2009. I attended U.S. Particle Accelerator School in June 2009 at the University of New Mexico. In addition, I am a presenter for the MIT Women's Initiative, where I encourage middle school girls to pursue math and science classes and educate them about opportunities to be found in engineering careers. The Women's Initiative is a great opportunity to spark an interest in engineering and show young girls how rewarding an engineering career can be. When not in the lab, I enjoy baking, reading, and participating in a local social book group, HP-MA, which organizes literary discussions and is a chapter of the Harry Potter Alliance, a volunteer organization.*



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