

Education	Doctoral candidate in the physics Ph.D. program, University of Rochester	present
	M.A. in Physics, University of Rochester	2011
	Certificate of College Teaching in Physics, University of Rochester	2010
	B.S. in Physics, <i>summa cum laude</i> , Houghton College	2009
Awards	Edward Peck Curtis Award for Excellence in Teaching by a Graduate Student	2012
	Trinity Forum Academy Fellowship	2012
	American Association of Physics Teachers Award	2010
Research	My research interests are in experimental quantum optics and nonlinear optics, specifically working with interactions between coherent light and rubidium. Work has included slow light, weak measurements, electromagnetically induced structures in gas, entanglement, and cold atoms.	
	John Howell's research lab, University of Rochester	2010-present
	◦ <i>Graduate student, experimental quantum optics</i>	
	Houghton College, Houghton, NY	2005-2009
	◦ <i>Worked with Brandon Hoffman on the design and construction of a variable temperature atomic force microscope</i>	
	Los Alamos National Laboratory, Los Alamos, NM	2008
	◦ <i>student researcher, worked with Mark Yuly (Houghton) and June Matthews (MIT) in nuclear physics</i>	
	Cornell University, Ithaca, NY	2007
	◦ <i>REU student, worked with Sheff Baker (Cornell) and Brandon Hoffman (Houghton) on characterization of thin silver films</i>	
Teaching	I enjoy the rewarding and creative process of teaching, which I believe is not only about excellent instruction, but about helping students learn material and skills that will equip them for the future and develop them as future scientists and thoughtful people.	
	Instructor , University of Rochester, Rochester, NY	2010
	<ul style="list-style-type: none"> • Taught and organized Physics 122, Electricity and Magnetism • Oversaw all aspects of the course, including lectures, creation of assignments and tests, and grading. 	
	Teaching Assistant , University of Rochester, Rochester, NY	2009-12
	<ul style="list-style-type: none"> • TA for: PHYS 122 Electricity and Magnetism, PHYS 123 Waves and Modern Physics, PHYS 141 Mechanics (honors), PHYS 142 Electricity and Magnetism (honors), and PHYS 143 20th Century Physics (honors). 	
	Teaching Assistant , Houghton College, Houghton, NY	2007-09
	<ul style="list-style-type: none"> • TA for: General Physics I and II, Physics of Music, Mechanics I and II. 	
	Tutor , Houghton College, Houghton, NY	2006-07
	Piano Teacher , Cambridge, ON and Houghton, NY	2001-09

**Selected
Publications**

Quantum and classical optics - emerging links J. H. Eberly, XF Qian, A.A. Qasimi, H Ali, M. A. Alonso, R. Gutierrez-Cuevas, B J Little, J C Howell, T Malhotra and A. N. Vamivakas Phys. Scr. 91, 063003 (2016).

Shifting the quantum-classical boundary: theory and experiment for statistically classical optical fields XF Qian, B Little, JC Howell, JH Eberly Optica 2 (7), 611-615 (2015).

Rapidly reconfigurable optically induced photonic crystals in hot rubidium vapor B Little, DJ Starling, JC Howell, RD Cohen, D Physical Review A 87 (4), 053815 (2013).

A Double Lorentzian Atomic Prism David J. Starling, Steven M. Bloch, Praveen K. Vudiyasetu, Joseph S. Choi, Bethany Little and John C. Howell Physical Review A 86 (2), 023826 (2012)

**Recent
Presentations**

Experimental Demonstration of Reflection and Refraction of Optical Pulses from Temporal Boundaries B Little, B Plansinis, G Agrawal, J Howell, Frontiers in Optics FF3H.2 (2016)

Nonlinear Optics with Tapered Fibers and Magneto-Optically Trapped Rb B Little, C Mullarkey, H Liang, Q Lin, N Vamivakas, and J C Howell, Poster at the 47th Annual APS DAMOP Meeting, Providence, RI, May 23–27, 2016.

Bell Experiment with Classical Fields, Bethany Little, XF Qian, JC Howell, and JH Eberly, March Meeting of the APS, Baltimore, MD March 18, 2016.

Light Sabers, non-zebras, and other fun with nonlinear optics. Science Colloquium, Houghton College, April 26, 2016. (Invited)

All-Optical Photonic Crystal using Rubidium BJ Little, JC Howell, N Katz, D Shwa Frontiers in Optics, FW5F. 3 (2012)

**Leadership
Activities**

Co-Founder , Quantum Optics Journal Club, Rochester, NY	2015-present
Coach and Leader , Free Methodist Bible Quizzing in Rochester, NY	2015-present
Mentor , University of Rochester Carillon Society, Rochester, NY	2011-2015
Conference Organizer , Cross Border Workshop, Rochester, NY	2011
Conference Volunteer , Frontiers in Optics/Laser Science, Rochester, NY	2010
Student Leader , Houghton College, Houghton, NY	2010-2011