

CURRICULUM VITAE

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Education

Ph.D.	1996	UMBC, Applied Physics
M.S.	1992	UMBC, Applied Physics
B.S.	1990	Bucknell University, Physics

Positions Held

2016 – Present	UMBC, Professor, Physics
2006 – 2016	UMBC, Associate Professor, Physics
1998 – 2006	Johns Hopkins University Applied Physics Lab, Senior Research Scientist
1996 – 1998	Johns Hopkins University Applied Physics Lab, Post-Doctoral Fellow

Publications

1. G.T. Hickman, J.D. Franson, and T.B. Pittman, "Optically enhanced production of metastable xenon", *Opt. Lett.* **41**, 4372 (2016).
2. D.E. Jones, G.T. Hickman, J.D. Franson, and T.B. Pittman, "Nanofiber-segment ring resonator", *Opt. Lett.* **41**, 3683 (2016).
3. G.T. Hickman, T.B. Pittman, and J.D. Franson, "Low-power cross-phase modulation in a metastable xenon-filled cavity for quantum information applications", *Phys. Rev. A* **92**, 053808 (2015).

4. D.E. Jones, J.D. Franson, and T.B. Pittman, "Ladder-type electromagnetically induced transparency using nanofiber-guided light in a warm atomic vapor", *Phys. Rev. A* **92**, 043806 (2015).
5. B.T. Kirby, G.T. Hickman, T.B. Pittman, and J.D. Franson, "Feasibility of single-photon cross-phase modulation using metastable xenon in a high finesse cavity", *Opt. Commun.* **337**, 57 (2015).
6. G.T. Hickman, T.B. Pittman, and J.D. Franson, "Saturated absorption at nanowatt power levels using metastable xenon in a high-finesse optical cavity", *Opt. Express* **22**, 22882 (2014).
7. D.E. Jones, J.D. Franson, and T.B. Pittman, "Saturation of atomic transitions using sub-wavelength diameter tapered optical fibers in rubidium vapor", *J. Opt. Soc. Am. B* **31**, 1997 (2014).
8. T.B. Pittman, "Viewpoint: It's a good time for time-bin qubits", *Physics* **6**, 110 (2013).
9. T.B. Pittman, D.E. Jones, and T.B. Pittman, "Ultralow-power nonlinear optics using tapered optical fibers in metastable xenon", *Phys. Rev. A* **88**, 053804 (2013).
10. M.M. Lai, J.D. Franson, and T.B. Pittman, "Transmission degradation and preservation for tapered optical fibers in rubidium vapor", *Appl. Opt.* **52**, 2595 (2013).
11. S.M. Hendrickson, C.N. Weiler, R.M. Camacho, P.T. Rakich, A.I. Young, M.J. Shaw, T.B. Pittman, J.D. Franson, and B.C. Jacobs "All-optical switching demonstration using two-photon absorption and the classical Zeno effect", *Phys. Rev. A* **87**, 023808 (2013).
12. J. Liang, J.D. Franson, and T.B. Pittman, "Time-bin entangled photon holes", *Phys. Rev. A* **86**, 053831 (2012).
13. J. Liang, S.M. Hendrickson, and T.B. Pittman, "Role of pump coherence in two-photon interference experiments", *Phys. Rev. A* **83**, 033812 (2011).
14. S.M. Hendrickson, M.M. Lai, T.B. Pittman, and J.D. Franson, "Observation of two-photon absorption at low power levels using tapered optical fibers in rubidium vapor", *Phys. Rev. Lett.* **105**, 173602 (2010).
15. J.L. Liang and T.B. Pittman, "Compensating for beamsplitter asymmetries in quantum interference experiments", *J. Opt. Soc. Am. B* **27**, 350 (2010).
16. S.M. Hendrickson, T.B. Pittman, and J.D. Franson, "Nonlinear transmission through a tapered fiber in rubidium vapor", *J. Opt. Soc. Am. B* **26**, 267 (2009).
17. S.M. Hendrickson, T.B. Pittman, and J.D. Franson, "Microcavities using holey fibers", *IEEE J. Lightwave Tech.* **25**, 3068 (2007).
18. T.B. Pittman, B.C. Jacobs, and J.D. Franson, "Investigation of a single-photon source based on quantum interference", *New J. Phys.* **9**, 125 (2007).

19. T.B. Pittman, "Development of a parametric down-conversion source for two-photon absorption experiments", Proc. SPIE 6710 Quantum Communications and Quantum Imaging V, 67100B (2007).
20. J.D. Franson, B.C. Jacobs, and T.B. Pittman, "Zeno logic gates using microcavities", J. Opt. Soc. Am. B **24**, 209 (2007).
21. T.B. Pittman and J.D. Franson, "Generation of entangled photon holes using quantum interference", Phys. Rev. A **74**, 041801(R) (2006).
22. B.C. Jacobs, T.B. Pittman, and J.D. Franson, "Single photon source using laser pulses and two-photon absorption" Phys. Rev. A **74**, 010303 (R) (2006).
23. T.B. Pittman, B.C. Jacobs, and J.D. Franson, "Demonstration of quantum error correction using linear optics", Phys. Rev. A **71**, 052332 (2005).
24. T.B. Pittman, B.C. Jacobs, and J.D. Franson, "Heralding single photons from pulsed parametric down-conversion", Opt. Comm. **246**, 545-550 (2005).
25. T.B. Pittman, B.C. Jacobs, and J.D. Franson, "Experimental demonstration of a quantum circuit using linear optics gates", Phys. Rev. A **71**, 032307 (2005).
26. J.D. Franson, B.C. Jacobs, and T.B. Pittman, "Quantum computing using single photons and the Zeno effect", Phys. Rev. A **70**, 062302 (2004).
27. T.B. Pittman, B.C. Jacobs, and T.B. Pittman, "Quantum computing using linear optics", Johns Hopkins APL Tech. Digest **25**, 84-90 (2004).
28. T.B. Pittman, B.C. Jacobs, and J.D. Franson, "Probabilistic quantum encoder for single-photon qubits", Phys. Rev. A **69**, 042306 (2004).
29. T.B. Pittman, M.M. Donegan, M.J. Fitch, B.C. Jacobs, J.D. Franson, H. Lee, P. Kok, and J.P. Dowling, "Heralded two-photon entanglement from probabilistic quantum logic operations on multiple parametric down-conversion sources", J. Sel. Topics in Quant. Elec. **9**, 1478-1482 (2003).
30. M.J. Fitch, B.C. Jacobs, T.B. Pittman, and J.D. Franson, "Photon-number resolution using time-multiplexed single-photon detectors", Phys. Rev. A **68**, 043814 (2003).
31. T.B. Pittman, M.J. Fitch, B.C. Jacobs, and J.D. Franson, "Experimental controlled-NOT gate for single photons in the coincidence basis", Phys. Rev. A **68**, 032316 (2003).
32. T.B. Pittman and J.D. Franson, "Violation of Bell's inequality with photons from independent sources", Phys. Rev. Lett **90**, 240401 (2003)
33. T.B. Pittman and J.D. Franson, "Cyclical quantum memory for photonic qubits", Phys. Rev. A **66**, 062302 (2002).

34. B.C. Jacobs, T.B. Pittman, and J.D. Franson, "Quantum relays and noise suppression using linear optics", *Phys. Rev. A* **66**, 052307 (2002).
35. T.B. Pittman, B.C. Jacobs, and J.D. Franson, "Demonstration of feed-forward control for linear optics quantum computation", *Phys. Rev. A* **66**, 052305 (2002).
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38. T.B. Pittman, B.C. Jacobs, and J.D. Franson, "Demonstration of non-deterministic quantum logic operations using linear optical elements", *Phys. Rev. Lett.* **88**, 257902 (2002).
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45. T.B. Pittman, Y.H. Shih, D.V. Strekalov, and A.V. Sergienko, "Optical Imaging by means of two-photon entanglement", *Phys. Rev. A* **52**, R3429-R2432, (1995).
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