

## Luke J. Bissell

### EDUCATION:

PhD Optics, University of Rochester, NY 2012  
B.S. Physics, Brigham Young University, UT 2004, cum laude

### EXPERIENCE:

10/2011-present Research physicist, Air Force Research Laboratory  
9/2004-9/2011 PhD candidate, Institute of Optics, University of Rochester, NY  
Summer 2007, 2008, 2009 SMART fellowship intern, AFRL/RX, Wright Patterson AFB, OH  
5/2004-7/2004 Research intern, Pacific Northwest National Laboratory, WA

### HONORS and AWARDS:

U.S. Department of Defense SMART Fellow, 2007  
Member, Sigma Pi Sigma, 2004  
SPIE Research Scholarship, 2002

### AREAS OF TECHNICAL EXPERTISE AND INTEREST

Luke Bissell received his PhD from the Institute of Optics at the University of Rochester in 2011, under Carlos Stroud and Svetlana Lukishova. His thesis research focused on the applications of single nanoparticles for quantum information. In 2006, he was a recipient of the DoD SMART fellowship. At the Air Force Research Laboratory, he has studied the use of quantum dots, metal nanoparticles, and nanodiamonds for next-generation photodetectors and quantum sensors. His work is also focused on *ab initio* modeling of color centers in diamond and SiC for novel quantum information applications. His expertise includes spectral ellipsometry, fluorescence spectroscopy, using confocal microscopy and time-correlated single-photon counting to measure fluorescence antibunching and fluorescence lifetimes, and the preparation of chiral and nematic liquid crystals. He has authored or co-authored 14 publications, 31 conference presentations, and 1 book chapter.

### SELECTED RECENT PUBLICATIONS

“Nanophotonic Advances for Room-Temperature Single-Photon Sources,” S. G. Lukishova, **L. J. Bissell**, to appear in: *Advances in Quantum Photonics: from the First Single-photon and Nonlinear Optical Experiments to Modern Quantum Photonics*, R.W. Boyd, S.G. Lukishova, V.N. Zadkov, eds., ch. 13. Springer, NY (2018)

“Carrier transfer from InAs quantum dots to ErAs metal nanoparticles,” C. R. Haughn, E. H. Steenbergen, **L. J. Bissell**, E. Y. Chen, K. G. Eyink, J. M. O. Zide, and M. F. Doty, *Applied Physics Letters*, **105**, 103108 (2014).

“Resonance in quantum dot fluorescence in a photonic bandgap liquid crystal host,” S. G. Lukishova, **L. J. Bissell**, J. Winkler, and C. R. Stroud, *Optics Letters*, **37**, 1259–1261 (2012).