Daniel Feldkhun

Curriculum Vitae

Department of Electrical, Computer & Energy Engineering
University of Colorado
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Education

Dec. 2010 **Ph.D. in Electrical Engineering**, *University of Colorado*, Boulder, CO.
Research in interferometry, ultrafast optics, acousto-optics, optical tomography, computational imaging. Invented and demonstrated optical tomography using acousto-optically structured illumination and a single-pixel detector to attain 1000-fold depth of field improvement over conventional microscopy.

Feb. 1999 **MEng in Electrical Engineering and Computer Science**, *MIT*, Cambridge, MA.
Research, development of acousto-optic structured light 3D imager at MIT Lincoln Laboratory.

June 1998 **BS in Electrical Engineering and Computer Science**, *MIT*, Cambridge, MA.
Interned at MIT Center for Space Research, MIT Lincoln Labs in addition to EECS coursework.

Honors and Awards

2008 – 2009 NSF IGERT Computational Optical Sensing and Imaging (COSI) Fellowship

2006 – 2009 Sandia National Laboratories Excellence in Science and Engineering Fellowship

2004 – 2008 NSF IGERT Optical Science and Engineering Program (OSEP) Fellowship

2004 – 2006 Optoelectronic Computing Systems Center Fellowship

Employment

Oct. 2015 – Present **Research Professor**, *University of Colorado*, Boulder, CO, part-time appointment.
Developing new computational imaging techniques based on agile structured illumination for remote microscopy and biophotonics with NASA and NSF support, providing guidance to graduate students.

Sept. 2011 – Present **Founder, President**, *LambdaMetrics*, Boulder, CO.
Running business, developing agile precision instruments for optical sensing, metrology, and bioimaging.

Jan. 2011 – Oct. 2015 **Research Associate**, *University of Colorado*, Boulder, CO, part-time appointment.
Developed broadband and 3D-tomographic Fourier Basis Agile Structured Illumination Sensing.

Sept. 2007 – Sept. 2011 **Founder, Chief Technologist**, *Chiaro Technologies*, Boulder, CO.
Active in all aspects of business, spearheaded high-speed 3D imaging technology, product development.

Mar. 2000 – May 2005 **Co-Founder, VP of Engineering**, *Umech Technologies*, Watertown, MA.
Active in all business aspects, designed optics, electronics for interferometric MEMS Motion Analyzer.

Feb. 1996 – Mar. 2000 **Student RA, then Technical Staff**, *MIT Lincoln Laboratory*, Lexington, MA.
Implemented and acousto-optic structured light 3D imaging system (building on MEng Thesis).

Selected Publications

Journal Papers

2016 Feldkhun, D. and Wagner, K. H. "Single-shot afocal three-dimensional microscopy". *Optics Letters* 41.15, pp. 3483–3486.

2010 Feldkhun, D. and Wagner, K. "Doppler Encoded Excitation Pattern Tomographic Optical Microscopy". *Appl. Opt.* 49.34, pp. H47–H63.

2000 Mermelstein, S. M., Feldkhun, D. F., and Shirley, L. G. "Video-rate surface profiling with acousto-optic accordion fringe interferometry". *Opt. Eng.* 39.1, pp. 106–113.

Theses

2010 Feldkhun, D. "Doppler Encoded Excitation Pattern (DEEP) Microscopy". PhD thesis. University of Colorado at Boulder.

1999 Feldkhun, D. "Acousto-Optic Interference Pattern Projector for Three-Dimensional Imaging". MEng thesis. Massachusetts Institute of Technology.