

FACULTY CURRICULUM VITAE

MYUNG K. KIM

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General Data

Initial date of USF employment: August 1995
Present position: Professor, Dept. of Physics, Univ. of South Florida

Education

<u>Institution</u>	<u>Field of Study</u>	<u>Degree</u>	<u>Date</u>
University of California, Berkeley, CA	Physics	Ph.D.	1986
University of California, Los Angeles, CA	Physics & Math	B.S. Cum Laude	1979

Employment History

- Professor, Aug. 2004 – present, Dept. of Physics, University of South Florida, Tampa, FL
- Associate Professor, Aug. 1995 – May 2004, Dept. of Physics, University of South Florida, Tampa, FL
- Assistant Professor, Aug. 1988 - May, 1995, Dept. of Physics and Astronomy, Wayne State University, Detroit, MI
- Postdoctoral Fellow, Jan. 1986 - Aug. 1988, Chemical Physics Laboratory, SRI International, Menlo Park, CA

Fellowships, Honors and Awards

- Cum Laude with B.S. degree from UCLA, 1979
- California State Graduate Fellowship, 1979-1981
- Sigma Xi, 2004-

Professional Affiliations

- American Physical Society: 1985 -
- Optical Society of America: 1986 -
- SPIE: International Society for Optical Engineering: 2002 -

Publications Summary

- 40 refereed publications (1 in press, 2 in review)
- 51 conference abstracts
- 1 book chapter
- 6 patents or invention disclosure

REFEREED PUBLICATIONS

1. C.A. Cattell, M.K. Kim, R.P. Lin, and F.S. Moser, "Observations of large electric fields near the plasmashet boundary by ISEE-1", *Geophys. Res. Lett.* **9**, 539 (1982).
2. M.K. Kim and R. Kachru, "Long-term image storage and phase conjugation by a backward-stimulated echo in $\text{Pr}^{3+}:\text{LaF}_3$ ", *J. Opt. Soc. Am. B* **4**, 305 (1987).
3. M.K. Kim and R. Kachru, "Storage and phase conjugation of multiple images using backward-stimulated echo in $\text{Pr}^{3+}:\text{LaF}_3$ ", *Opt. Lett.* **12**, 593 (1987).
4. M. Mitsunaga, M.K. Kim, and R. Kachru, "Degenerate photon echoes: simultaneous storage of multiple optical data", *Opt. Lett.* **13**, 536 (1988).
5. M.K. Kim and R. Kachru, "Multiple-bit long-term data storage by backward stimulated echo in $\text{Eu}^{3+}:\text{YAlO}_3$ ", *Opt. Lett.* **14**, 423 (1989).
6. M.K. Kim and R. Kachru, "Many-bit optical data storage by backward stimulated echo", *Appl. Opt.* **28**, 2186 (1989).
7. M.K. Kim and R. Kachru, "Hyperfine measurements of $1D_2 - 3H_4$ transition in $\text{Pr}^{3+}:\text{YAG}$ using photon echo", *Phys. Rev. B* **40**, 2082 (1989).
8. M. Mitsunaga, R. Kachru, E. Xu, and M.K. Kim, "cw photon echo", *Phys. Rev. Lett.* **63**, 754 (1989).
9. E.Y. Xu, S. Kröll, D.L. Heustis, R. Kachru, and M.K. Kim, "Nanosecond image processing using stimulated photon echoes", *Opt. Lett.* **15**, 562 (1990).
10. S. Kröll, E.Y. Xu, M.K. Kim, M. Mitsunaga and R. Kachru, "Intensity-dependent photon echo relaxation in $\text{Pr}^{3+}:\text{YAG}$ ", *Phys. Rev. B* **41**, 11568 (1990).
11. M.K. Kim and R. Kachru, "Hyperfine structures of praseodymium ions in solids using stimulated photon echo modulation", *Phys. Rev. B* **44**, 9826 (1991).
12. D. Manganaris, P. Talagala and M. K. Kim, "Spatial mixed binary multiplication by photon echoes", *Appl. Opt.* **31**, 2426 (1992).
13. R.A. Breitenbach, P.K. Swisher, M.K. Kim, and B. S. Patel, "The photic sneeze reflex as a risk factor to combat pilots", *Military Medicine* **158**, 806 (1993).
14. Y. Zhao, C. Wu, P. Shah, M.K. Kim, and L.R. Dawson, "Optical phase conjugation in $\text{InGaAs}/\text{GaAs}$ multiple quantum wells at $1.06 \mu\text{m}$ wavelength", *Appl. Phys. Lett.* **63**, 281 (1993).
15. P.R. Hemmer, S.M. Shahriar, M.K. Kim, K.Z. Cheng, and J. Kierstead, "Time domain optical data storage using Raman coherent population trapping", *Opt. Lett.* **19**, 296 (1994).
16. B.S. Ham and M.K. Kim, "Photon-echo amplification by an external-cavity amplifier", *Appl. Opt.* **33**, 4472 (1994).
17. P. Talagala, S.H. Ling, and M.K. Kim, "Photon echoes using broadband cw laser", *J. Mod. Opt.* **43**, 253 (1996).
18. P.R. Hemmer, M.S. Shahriar, B.S. Ham, M.K. Kim, and Yu. Rozhdestvensky, "Optical spectral holeburning with Raman coherent population trapping", *Molecular Crystals and Liquid Crystals* **291**, 287 (1996).

19. Y. Zhao, C. Wu, B.S. Ham, M.K. Kim, and E. Awad, "Microwave induced transparency in ruby", *Phys. Rev. Lett.* **79**, 641 (1997).
20. B.S. Ham, M.S. Shahriar, M.K. Kim, and P.R. Hemmer, "Frequency-selective time-domain optical data storage by electromagnetically induced transparency in a rare-earth doped solid", *Opt. Lett.* **22**, 1849 (1997).
21. H. Sonajalg and M.K. Kim, "Perturbation analysis of Raman echo", *J. Opt. Soc. Am. B* **15**, 1780 (1998).
22. B. S. Ham, M. S. Shahriar, M. K. Kim, and P. R. Hemmer, "Spin coherence excitation and rephasing with optically shelved atoms", *Phys. Rev. B* **58**, R11825-R11828 (1998).
23. B.S. Ham, P.R. Hemmer, M.K. Kim, and S.M. Shahriar, "Quantum interference and its potential applications in a spectral hole-burned solid", *Laser Physics* **9**, (3) 788-796 (1999).
24. M.K. Kim, "Wavelength scanning digital interference holography for optical section imaging", *Opt. Lett.* **24**, 1693 (1999)
25. M.K. Kim, B.S. Ham, P.R. Hemmer, and M.S. Shahriar, "Observation of sub-kilohertz resonance in rf-optical double resonance experiment in rare earth ions in solids", *J. Mod. Opt.* **47**, 1713-1728 (2000)
26. M.K. Kim, "Tomographic three-dimensional imaging of a biological specimen using wavelength-scanning digital interference holography," *Opt. Exp.* **7**, 305-10 (2000). (An image from this paper has also been published in the After Image section of *Optics & Photonics News*, Jan. 2001, P.56).
27. A. Dakoff, J. Gass, & M.K. Kim, "Microscopic three-dimensional imaging by digital interference holography", *J. Electronic Imaging* **12**, 643-7 (2003).
28. J. Gass, A. Dakoff, & M.K. Kim, "Phase imaging without 2pi-ambiguity by multiple-wavelength digital holography", *Opt. Lett.* **28**, 1141-3 (2003).
29. Lingfeng Yu & M.K. Kim, "Full-color three-dimensional microscopy by wide-field optical coherence tomography", *Opt. Exp.* **12**, 6632-6641 (2004).
30. L. Yu & M.K. Kim, "Wavelength scanning digital interference holography for variable tomographic scanning", *Opt. Express* **13**, 5621-7 (2005).
31. Lingfeng Yu & Myung K Kim, "Wavelength-scanning digital interference holography for tomographic 3D imaging using the angular spectrum method", *Opt. Lett.* **30**, 2092-2094 (2005).
32. C.J. Mann, L. Yu, C.M. Lo, & M.K. Kim, "High-resolution quantitative phase-contrast microscopy by digital holography", *Opt. Express* **13**, 8693-8698 (2005)
33. D. Parshall & M.K. Kim, "Digital holographic microscopy with dual wavelength phase unwrapping", *Appl. Opt.* **45**, 451-459 (2006).
34. L.G. Krzewina & M.K. Kim, "Single-exposure optical sectioning by color structured illumination microscopy", *Opt. Lett.* **31**, 477-479 (2006).
35. L. Yu and M.K. Kim, "Variable tomographic scanning with wavelength scanning digital interference holography", *Opt. Comm.* **260**, 462-468 (2006).
36. L. Yu and M.K. Kim, "Pixel resolution control in numerical reconstruction of digital holography", *Opt. Lett.* **31**, 897 (2006).
37. C. Mann, L. Yu, & M.K. Kim, "Movies of cellular and sub-cellular motion by digital holographic microscopy", *Biomed. Engg. Online*, **5**, 21 (2006). Received 'Highly Accessed' designation by BioMed Central.
38. M.K. Kim, L. Yu, & C.J. Mann, "Interference techniques in digital holography", *J. Opt. A* **8**, S518-523 (2006).
39. L. Krzewina & M.K. Kim, "Optical sectioning by selective illumination feedback microscopy", to be published in *J. Mod. Opt.*

BOOK CHAPTERS

1. M.K. Kim, L. Yu, and C.J. Mann, "Digital holography and multi-wavelength interference techniques", Chap. 2 in T.C. Poon, ed., *Digital holography and three-dimensional display* (Springer, 2006).

PATENTS

1. R. Kachru, E. Xu, S. Kröll, D.L. Heustis, and M.K. Kim, "All-optical image processing and pattern recognition apparatus using stimulated photon echoes", U.S. Patent No. 05204770 (1993).
2. M.K. Kim, "Digital interference holographic microscope and methods", US Patent No. 7127109 (2006)
3. M.K. Kim, J. Gass, & A. Dakoff, "Phase imaging using multi-wavelength digital holography", US Patent No. 6,809,845 (2004)
4. M.K. Kim & L. Yu, "Method of full-color optical coherence tomography", US Patent No. 7095503 (2006)
5. M.K. Kim, "Scanning photon microscopy", invention disclosure filed at USF Patents & Licensing (2005)
6. M.K. Kim, "Improvements on the wavelength scanning digital interference holography", invention disclosure filed at USF Patents & Licensing (2005)