

## FACULTY CURRICULUM VITAE

### MYUNG K. KIM, Professor

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[Revised: 11/01/2013](#)

#### **General Data**

Date of Birth: January 15, 1956  
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
Seoul National University	Pre-medicine		1974
Kyunggi High School			1974

#### **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

#### **Professional Affiliations and Honors**

- Advisory Committee, OSA DH (Digital Holography and 3D Imaging) Topical Meeting 2014
- Elected Senior Member of the SPIE (2013)
- Program Chair of OSA DH (Digital Holography and 3D Imaging) Topical Meeting 2013
- Lead editor, Applied Optics feature issue on Digital Holography and 3D Imaging, to be published 2013
- General Chair of OSA DH (Digital Holography and 3D Imaging) Topical Meeting 2012
- Topical editor for Applied Optics, Information Processing Division (2011-2014)
- Member, Optical Society of Korea (since 2011)
- Member, Korean-American Scientists and Engineers Association (since 2011)
- Elected Fellow of the Optical Society of America (2010)
- SPIE Visiting Lecturer (2005-)
- Member, Sigma Xi (since 2004)
- Member, SPIE: International Society for Optical Engineering (since 2002)
- Member, Optical Society of America (since 1986)
- Member, American Physical Society (since 1985)
- California State Graduate Fellowship (1979-1981)
- Cum Laude with B.S. degree from UCLA (1979)

## **Publications Summary**

- 9 book, book chapters and invited review articles
- 12 patents issued or pending
- 65 refereed journal publications
- 30 invited presentations
- 102 contributed conference papers

## **BOOK, BOOK CHAPTERS AND INVITED REVIEW ARTICLES**

9. MK Kim, Y Hayasaki, P Picart, & J Rosen, "Digital holography and 3-D imaging: introduction to feature issue" *Applied Optics* **52**, DH1-DH1 (2013).
8. P. Banerjee, G. Barbastathis, MK Kim, and N Kukhtarev, "Digital holography and 3D imagin," *Applied Optics* **50**, DH1-DH2 (2011), *feature issue introduction*
7. MK Kim, *Digital Holographic Microscopy: Principles, Techniques, and Applications*, (Springer, 2011) ISBN 978-1-4419-7792-2
6. DC Clark & MK Kim, "High precision method for measuring photothermal properties of transparent media with digital holography," *Chinese Opt. Lett.* **9** 120001:1-4 (2011)
5. MK Kim, "Applications of digital holography to biomedical microscopy," *J. Opt. Soc. Korea* **14**, 77-89 (2010) (invited review paper) <http://www.opticsinfobase.org/JOSK/abstract.cfm?uri=JOSK-14-2-77>
4. M.K. Kim, "Principles and techniques of digital holographic microscopy," *SPIE Reviews* **1**, 018005-1~50 (2010) (invited review paper) <http://dx.doi.org/10.1117/6.0000006>
3. N Warnasooriya & MK Kim, "Quantitative phase imaging using multi-wavelength optical phase unwrapping," Chap. 33 in N. Costa & A. Cartaxo, eds., *Advances in Lasers and Electro-optics*, (In-Tech, 2009) ISBN 978-953-307-088-9
2. L.G. Krzewina & M.K. Kim, "Structured Illumination Imaging," Chap. 17 in Q. Wu, F. Merchant, and K. Castleman, eds., *Microscope Image Processing* (Elsevier, 2008) ISBN: 978-0-12-372578-3
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). ISBN 0-387-31340-0

## **PATENTS**

12. MK Kim, "Full color natural light holographic camera," patent pending (US provisional patent application: 61/837,728, 2013).
11. MK Kim, "Incoherent digital holographic adaptive optics," patent pending (US Utility Patent Application 13/872,633, 2013)
10. M.K. Kim, "Systems and methods for imaging cellular motility," patent pending (US provisional patent application: 61/665,049, 2012)
9. M.K. Kim, "Adaptive optics ophthalmic imager without wavefront sensor or wavefront corrector," patent pending (PCT/US11/61798, 2011)
8. M.K. Kim, "Total internal reflection holographic microscope," US Patent No. 7,880,891 (2011)
7. M.K. Kim, "Total internal reflection holographic microscope," US patent No. 7,812,959 (2010).
6. M.K. Kim, "Variable tomographic scanning with wavelength scanning digital interference holography", US Patent No. 7,486,406 (2009)
5. M.K. Kim & L. Yu, "Method of full-color optical coherence tomography", US Patent No. 7,317,540 (2008)
4. M.K. Kim & L. Yu, "Method of full-color optical coherence tomography", US Patent No. 7,095,503 (2006)

3. M.K. Kim, J. Gass, & A. Dakoff, "Phase imaging using multi-wavelength digital holography", US Patent No. 6,809,845 (2004)
2. M.K. Kim, "Digital interference holographic microscope and methods", US Patent No. 7,127,109 (2006)
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. 05,204,770 (1993).

### **REFEREED JOURNAL PUBLICATIONS**

65. Changgeng Liu, Xiao Yu, and Myung K. Kim, "Phase aberration correction by correlation in digital holographic adaptive optics," *Appl. Opt.* **52**, 2940-2949 (2013)  
<http://www.opticsinfobase.org/ao/abstract.cfm?URI=ao-52-12-2940>
64. Myung K. Kim, "Full color natural light holographic camera," *Opt. Express* **21**, 9636-9642 (2013)  
<http://www.opticsinfobase.org/oe/abstract.cfm?URI=oe-21-8-9636>  
- 4/22/13: selected for Image of the Week in OSA Optics InfoBase  
- 5/0/13: selected for Top Downloads from April 2013, *Opt. Express*
63. MK Kim, "Incoherent digital holographic adaptive optics," *Appl. Opt.* **52**, A117-A130 (2013).  
<http://www.opticsinfobase.org/ao/abstract.cfm?URI=ao-52-1-A117>  
- 2/21/13: selected for inclusion in OSA's *Spotlight on Optics*
62. C Liu & MK Kim, "Fourier transform digital holographic adaptive optics imaging system," *Appl. Opt.* **51**, 8449-8454 (2012). <http://www.opticsinfobase.org/ao/abstract.cfm?URI=ao-51-35-8449>  
- republished in *Virtual Journal for Biomedical Optics* **8** (1) (2013)
61. DC Clark & MK Kim, "Noncontact single-pulse optical method to measure interfacial properties in intact systems," *Opt. Lett.* **37**, 5145-5147 (2012). <http://www.opticsinfobase.org/ol/abstract.cfm?URI=ol-37-24-5145>  
- republished in *Virtual Journal for Biomedical Optics* **8** (1) (2013)
60. Xiao Yu, Michael Cross, Changgeng Liu, David C. Clark, Donald T. Haynie & Myung K. Kim (2012): Quantitative imaging and measurement of cell-substrate surface deformation by digital holography, *Journal of Modern Optics*, DOI:10.1080/09500340.2012.729095, <http://dx.doi.org/10.1080/09500340.2012.729095>
59. MK Kim, "Adaptive optics by incoherent digital holography," *Opt. Lett.* **37**, 2694-2696 (2012).  
<http://www.opticsinfobase.org/ol/abstract.cfm?URI=ol-37-13-2694>
58. X Yu, M Cross, C Liu, DC Clark, DT Haynie, & MK Kim, "Measurement of the traction force of biological cells by digital holography," *Biomed Opt Express* **3**, 153-159 (2011).  
<http://www.opticsinfobase.org/boe/abstract.cfm?URI=boe-3-1-153>
57. Y Wan, WM Ash III, L Fan, H Hao, MK Kim, J Lin, "Variable-angle total internal reflection fluorescence microscopy of intact cells of *Arabidopsis thaliana*," *Plant Methods* **7**:27 1-7 (2011).  
<http://www.plantmethods.com/content/7/1/27>
56. C Liu, D Wang, JJ Healy, BM Hennelly, JT Sheridan, & MK Kim, "Digital computation of the complex linear canonical transform," *J Opt Soc Am A* **28**, 1379-1386 (2011).  
<http://www.opticsinfobase.org/josaa/abstract.cfm?URI=josaa-28-7-1379>
55. C Liu & MK Kim, "Digital holographic adaptive optics for ocular imaging: proof of principle," *Opt. Lett.* **36**, 2710-12 (2011). <http://www.opticsinfobase.org/ol/abstract.cfm?URI=ol-36-14-2710>
54. M Heimbeck, MK Kim, DA Gregory, & HO Everitt, "Terahertz digital holography using angular spectrum and dual wavelength reconstruction methods," *Opt. Expr.* **19**, 9192-9200 (2011)  
<http://www.opticsinfobase.org/oe/abstract.cfm?URI=oe-19-10-9192>
53. DC Clark & MK Kim, "Determination of absorption coefficient by digital holographic measurement of optical excitation," *Appl. Opt.* **50**, 1668-1672 (2011)  
<http://www.opticsinfobase.org/ao/abstract.cfm?URI=ao-50-12-1668>  
- republished in *Virtual Journal for Biomedical Optics* **6** (5) (2011)

52. MC Potcoava, CN Kay, MK Kim, & DW Richards, "In vitro imaging of ophthalmic tissue by digital interference holography," *J. Mod. Opt.* **57**, 115-123 (2010)  
<http://www.informaworld.com/smpp/content~db=all~content=a913538447~frm=titlelink>
51. WM Ash, L Krzewina, & MK Kim, "Quantitative imaging of cellular adhesion by total internal reflection holographic microscopy," *Appl. Opt.* **48**, H144-152 (2009)  
<http://www.opticsinfobase.org/ao/abstract.cfm?uri=ao-48-34-H144>  
- republished in *Virtual Journal for Biomedical Optics* **5** (1) (2010)
50. MC Potcoava & MK Kim, "Fingerprint biometry applications of digital holography and low-coherence interferography," *Appl. Opt.* **48**, H9-15 (2009) <http://www.opticsinfobase.org/ao/abstract.cfm?uri=ao-48-34-H9>  
- republished in *Virtual Journal for Biomedical Optics* **5** (1) (2010)
49. L Yu, S Mohanty, J Zhang, S Genc, MK Kim, MW Berns, Z Chen, "Digital holographic microscopy for quantitative cell dynamic evaluation during laser microsurgery," *Opt. Express* **17**, 12031-12038 (2009)  
<http://www.opticsinfobase.org/oe/abstract.cfm?URI=oe-17-14-12031>  
- republished in *Virtual Journal for Biomedical Optics* **4** (9) (2009)
48. N Warnasooriya & MK Kim, "Quantitative phase imaging using three-wavelength optical phase unwrapping," *J Mod Opt* **56**, 67-74 (2009).  
<http://www.informaworld.com/smpp/content~db=all~content=a906935999~frm=titlelink>
47. A Khmaladze & MK Kim, "Design and imaging properties of a laser scanning microscope with a position-sensitive detector," *J Mod Opt* **55**, 2785-2796 (2008).  
<http://www.informaworld.com/smpp/content~db=all~content=a904178828~frm=titlelink>
46. A Khmaladze, A Restrepo-Martinez, MK Kim, R Castaneda, & A Blandon, "Simultaneous dual-wavelength reflection digital holography applied to the study of the porous coal samples," *Appl. Opt.* **47**, 3203-3210 (2008). <http://www.opticsinfobase.org/abstract.cfm?URI=ao-47-17-3203>
45. WM Ash III & MK Kim, "Digital holography of total internal reflection," *Opt. Express* **16**, 9811-9820 (2008). <http://www.opticsinfobase.org/abstract.cfm?URI=oe-16-13-9811>
44. A Khmaladze, MK Kim, & CM Lo, "Phase imaging of cells by simultaneous dual-wavelength reflection digital holography," *Opt. Express* **16**, 10900-10911 (2008).  
<http://www.opticsinfobase.org/abstract.cfm?URI=oe-16-15-10900>
43. MC Potcoava & MK Kim, "Optical tomography for biomedical applications by digital interference holography," *Meas. Sci. Technol.* **19**, 074010-1~8 (2008). <http://iopscience.iop.org/0957-0233/19/7/074010>
42. N. Warnasooriya & MK Kim, "LED-based multi-wavelength phase imaging interference microscopy", *Opt. Expr.* **15**, 9239-9247 (2007). <http://www.opticsinfobase.org/abstract.cfm?URI=oe-15-15-9239>
41. Lingfeng Yu, Giancarlo Pedrini, Wolfgang Osten, and Myung K. Kim, "Three-dimensional angle measurement based on propagation vector analysis of digital holography", *Appl. Opt.* **46** 3539-3545 (2007). <http://www.opticsinfobase.org/abstract.cfm?URI=ao-46-17-3539>
40. L. Krzewina & M.K. Kim, "Optical sectioning by selective illumination feedback microscopy", *J. Mod. Opt.* **54**, 1819-1826 (2007)  
<http://www.informaworld.com/smpp/content~db=all~content=a778056003~frm=titlelink>
39. JY Shen, XG Li, MK Kim, & SJ Chang, "New approach to extract phase feature of 3D objects by wavelength scanning digital holography," *Optoelectronics Lett* **2**, 0136-0138 (2006).
38. M.K. Kim, L. Yu, & C.J. Mann, "Interference techniques in digital holography", *J. Opt. A* **8**, S518-523 (2006). [http://ej.iop.org/links/q82/w1OsDr35vZ+M+o1KvXyGPg/joa6\\_7\\_S33.pdf](http://ej.iop.org/links/q82/w1OsDr35vZ+M+o1KvXyGPg/joa6_7_S33.pdf) (downloaded 267 times 7/06-2/07)
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. <http://www.biomedical-engineering-online.com/content/pdf/1475-925X-5-21.pdf>

36. L. Yu and M.K. Kim, "Pixel resolution control in numerical reconstruction of digital holography", *Opt. Lett.* **31**, 897 (2006). <http://ol.osa.org/abstract.cfm?id=88882>
35. L. Yu and M.K. Kim, "Variable tomographic scanning with wavelength scanning digital interference holography", *Opt. Comm.* **260**, 462-468 (2006). [doi:10.1016/j.optcom.2005.11.022](https://doi.org/10.1016/j.optcom.2005.11.022)
34. L.G. Krzewina & M.K. Kim, "Single-exposure optical sectioning by color structured illumination microscopy", *Opt. Lett.* **31**, 477-479 (2006). <http://ol.osa.org/abstract.cfm?id=87869>
33. D. Parshall & M.K. Kim, "Digital holographic microscopy with dual wavelength phase unwrapping", *Appl. Opt.* **45**, 451-459 (2006). <http://ao.osa.org/abstract.cfm?id=87521>  
- republished in *Virtual Journal for Biomedical Optics* **1** (2) (2006)
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). (An image from this paper was featured on the masthead of the issue.) <http://www.opticsexpress.org/abstract.cfm?id=86034>
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). <http://ol.osa.org/abstract.cfm?id=84840>
30. L. Yu & M.K. Kim, "Wavelength scanning digital interference holography for variable tomographic scanning", *Opt. Express* **13**, 5621-5627 (2005). <http://www.opticsexpress.org/abstract.cfm?id=85213>
29. Lingfeng Yu & M.K. Kim, "Full-color three-dimensional microscopy by wide-field optical coherence tomography", *Opt. Exp.* **12**, 6632-6641 (2004). <http://www.opticsexpress.org/abstract.cfm?id=83622>
28. J. Gass, A. Dakoff, & M.K. Kim, "Phase imaging without 2pi-ambiguity by multiple-wavelength digital holography", *Opt. Lett.* **28**, 1141-1143 (2003). <http://ol.osa.org/abstract.cfm?id=72915>
27. A. Dakoff, J. Gass, & M.K. Kim, "Microscopic three-dimensional imaging by digital interference holography", *J. Electronic Imaging* **12**, 643-647 (2003). <http://spiedl.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=JEIME500001200000400064300001&idtype=cvips&gifs=Yes>
26. M.K. Kim, "Tomographic three-dimensional imaging of a biological specimen using wavelength-scanning digital interference holography," *Opt. Exp.* **7**, 305-310 (2000). (An image from this paper has also been published in the After Image section of *Optics & Photonics News*, Jan. 2001, P.56). <http://www.opticsexpress.org/abstract.cfm?id=63517>
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)
24. M.K. Kim, "Wavelength scanning digital interference holography for optical section imaging", *Opt. Lett.* **24**, 1693-1695 (1999). <http://ol.osa.org/abstract.cfm?id=37567>
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).
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).
21. H. Sonajalg and M.K. Kim, "Perturbation analysis of Raman echo", *J. Opt. Soc. Am. B* **15**, 1780 (1998).
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).
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).
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).

17. P. Talagala, S.H. Ling, and M.K. Kim, "Photon echoes using broadband cw laser", *J. Mod. Opt.* **43**, 253 (1996).
16. B.S. Ham and M.K. Kim, "Photon-echo amplification by an external-cavity amplifier", *Appl. Opt.* **33**, 4472 (1994).
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).
14. Y. Zhao, C. Wu, P. Shah, M.K. Kim, and L.R. Dawson, "Optical phase conjugation in InGaAs/GaAs multiple quantum wells at 1.06  $\mu\text{m}$  wavelength", *Appl. Phys. Lett.* **63**, 281 (1993).
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).
12. D. Manganaris, P. Talagala and M. K. Kim, "Spatial mixed binary multiplication by photon echoes", *Appl. Opt.* **31**, 2426 (1992).
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).
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).
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).
8. M. Mitsunaga, R. Kachru, E. Xu, and M.K. Kim, "cw photon echo", *Phys. Rev. Lett* **63**, 754 (1989).
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6. M.K. Kim and R. Kachru, "Many-bit optical data storage by backward stimulated echo", *Appl. Opt.* **28**, 2186 (1989).
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).
4. M. Mitsunaga, M.K. Kim, and R. Kachru, "Degenerate photon echoes: simultaneous storage of multiple optical data", *Opt. Lett.* **13**, 536 (1988).
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).
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).
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).

### **INVITED PRESENTATIONS**

30. MK Kim, "Incoherent digital holography for microscopy to astronomy," seminar given at SPIE Student Chapter at Universidad Politécnica de Tulancingo, Mexico. (Oct. 28, 2013)
29. MK Kim, "Digital holography for biomedical imaging," speech given at Inauguración del 60 Encuentro de Investigación en la Universidad Politécnica de Tulancingo, Mexico. (Oct. 28, 2013)
28. MK Kim, "Coherent and incoherent digital holography: from microscopy to astronomy," two 40-minute lectures given at International School of Physics and Technology of Matter, Otranto, Italy (Sep. 16, 2013)
27. MK Kim & Jisoo Hong, "SIDH: Self-interference incoherent digital holography," invited talk at EOS Topical Meeting on Optical Microsystems, Capri, Italy (Sep. 12, 2013)

26. MK Kim, "Coherent and incoherent digital holography: from microscopy to astronomy," seminar given at Samsung Advanced Institute of Technology, Yongin, Korea (Aug. 7, 2013).
25. MK Kim, "Coherent and incoherent digital holography: from microscopy to astronomy," seminar given at School of Electrical Engineering, Seoul National University, Seoul, Korea (Aug. 6, 2013).
24. MK Kim, "Digital holography from microscopy to astronomy," seminar given at Advanced Light Source/Center for X-ray Optics, Lawrence Berkeley National Laboratory, Berkeley, CA (July 17, 2013).
23. MK Kim, "Digital holography of coherent and incoherent sources," seminar given at Kwangwoon University, Seoul, Korea (May, 2013).
22. MK Kim, "Applications of digital holography: from microscopy to astronomy," seminar given at Hillsborough Community College, Tampa, FL (Mar. 2013)
21. MK Kim, "Digital holographic adaptive optics techniques with coherent or incoherent sources," invited talk at OSA Annual Meeting Frontiers in Optics, Rochester, NY (Oct. 2012)
20. MK Kim, "Adaptive optics by incoherent digital holography," invited talk at CCMR 2012 (Collaborative Conference on Materials Research), Seoul, Korea (June 2012)
19. MK Kim, "Adaptive optics by digital holography," invited talk at OSA Sensors Topical Meeting, Monterey, CA (June, 2012)
18. MK Kim, "Special techniques of digital holography," tutorial presentation given at OSA DH Topical Meeting (May, 2012)
17. MK Kim, "Numerical techniques of digital holography for microscopy and metrology," invited talk given at IWHM&D 2010 (International Workshop on Holographic Memory & Display 2010), University of Tokyo, Japan (Nov. 2010)
16. MK Kim, "Applications of digital holography in biomedical microscopy," seminar given at Dept. of Information and Communications Engineering, Inha University, Incheon, Korea (June 24, 2010)
15. MK Kim, "Applications of digital holography in biomedical microscopy," seminar given at Center for Nano-Optical Imaging Systems, Gwangju Institute of Science and Technology, Gwangju, Korea (June 22, 2010)
14. MK Kim, "Digital holography and microscopy," seminar given at Dept. of Physics, Yonsei University, Seoul, Korea (June 2, 2009)
13. MK Kim, "Short course on digital holography," three-day short course given at INAOE (Instituto Nacional de Astrofísica, Óptica y Electrónica), Puebla, Mexico (Mar. 17-19, 2009)
12. MK Kim, "Quantitative phase microscopy by digital holographic microscopy," seminar given at Beckman Laser Institute, University of California, Irvine, CA (Aug. 12, 2008)
11. WM Ash & MK Kim, "Digital holography of total internal reflection," OSA COTA: Coherent Optical Technologies and Applications (July 13-16, 2008, Boston, MA), Invited Paper
10. MK Kim, "Digital holography and biomedical imaging," One-day workshop on applied optics (7/7/2008, Deccan College of Engineering & Technology, Hyderabad, India)
9. MK Kim, "Digital holography and biomedical imaging," One-day workshop on teaching optics in degree colleges, (Nizam College, Osmania University, Hyderabad, India, 7/5/2008)
8. WM Ash & MK Kim, "A Demonstration of total internal reflection holographic microscopy for the study of cellular motion," OSA DH: Digital Holography and Three Dimensional Imaging (March 16-20, 2008, St Petersburg, FL), Invited Paper
7. MK Kim, "Digital holographic microscopy", plenary address at Optical Society of Korea Meeting, (July 18 – 20, 2007, Sokcho, Korea).
6. MK Kim, "Digital interference holography for optical tomography", Workshop on digital holographic reconstruction & optical tomography for engineering applications (Apr. 23-25, 2007, Loughborough

University, Loughborough, UK).

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5. MK Kim, “Digital holography techniques for biological microscopy and tomography”, address SEEK(Scientists and Engineers Expanding Knowledge), Dec. 7, 2006, Sarasota, FL.
4. MK Kim, “Interference techniques in digital holography and microscopy”, address SPIE student chapter at Duke University, Oct. 17, 2006.
3. MK Kim, “Digital holography and coherence microscopy”, seminar presented at Dept. of Electrical Engineering, Korea Advanced Institute of Science and Technology (Daejeon, Korea), June 11, 2004
2. MK Kim, “Digital holography and coherence microscopy”, seminar presented at Dept. of Physics, Pohang University (Pohang, Korea), June 9, 2004
1. M.K. Kim, “Quantum interference and atomic memory”, invited talk at Quantum Optics 2003, (Muju, Korea, Jan.22-24, 2003).

### **CONTRIBUTED CONFERENCE PAPERS**

102. C. Liu, X. Yu, J. Hong, & MK Kim “Image synthesis for off axis low coherence digital holography,” OSA Frontiers in Optics (Orlando, FL, Oct. 2013).
101. X. Yu, C. Liu, J. Hong, & MK Kim, “Four dimensional motility tracking of biological cells by digital holographic microscopy,” OSA Frontiers in Optics (Orlando, FL, Oct. 2013).  
- selected as a finalist in the 2013 Emil Wolf Outstanding Student Paper Competition
100. J. Hong & MK Kim, “Unknown arbitrary phase shift retrieval and holographic reconstruction from images obtained from self-interference incoherent digital holography,” OSA Frontiers in Optics (Orlando, FL, Oct. 2013).
99. MK Kim, “Digital holography of natural scenes,” OSA Frontiers in Optics (Orlando, FL, Oct. 2013).
98. MK Kim, “Full color holographic imaging under daylight illumination,” postdeadline paper, OSA COSI Topical Meeting (Arlington, VA, Jun. 2013)
97. C. Liu, X. Yu, & MK Kim, “Simulation and experimtn of Fourier transform digital holographic adaptive optics,” OSA DH Topical Meeting (Kohala Coast, HI, Apr. 2013)
96. X. Yu, C. Liu, & MK Kim, “Four dimensional motility tracking of biological cells by digital holographic microscopy,” OSA DH Topical Meeting (Kohala Coast, HI, Apr. 2013)
95. J. Hong & MK Kim, “Resolution enhancement of incoherent digital holography using the super resolution image reconstruction technique,” OSA DH Topical Meeting (Kohala Coast, HI, Apr. 2013)
94. MK Kim and C Liu, “Ophthalmic adaptive optics by digital holography,” SPIE BiOS (San Francisco, CA, Feb. 2013)
93. X Yu, M Cross, C Liu, DC Clark, DT Haynie, & MK Kim, “Quantitative imaging and measurement of cell-substrate surface deformation by digital holography,” OSA Frontiers in Optics (Rochester, NY, Oct. 2012)
92. C Liu & MK Kim, “In vitro bovine retina imaging by digital holographic adaptive optics,” OSA Frontiers in Optics (Rochester, NY, Oct. 2012)
91. DC Clark & MK Kim, “Noncontact single optical pulse method to measure cell membrane properties, OSA Frontiers in Optics (Rochester, NY, Oct. 2012)
90. X Yu, M Cross, C Liu, DC Clark, DT Haynie & MK Kim, “Quantitative imaging of surface deformation on substrata due to cell motility by digital holography,” OSA DH Topical Meeting (Miami, FL, May 2012)
89. MK Kim, “A proposal for astronomical adaptive optics by incoherent digital holography,” OSA DH Topical Meeting (Miami, FL, May 2012)
88. DC Clark & MK Kim “Time-dependent surface response of fluid to transmission optical pressure impulse,” OSA DH Topical Meeting (Miami, FL, May 2012)



87. C Liu & MK Kim, "Biological imaging by digital holographic adaptive optics," OSA DH Topical Meeting (Miami, FL, May 2012)
86. MS Heimbeck, MK Kim, DA Gregory, HO Everitt, "Terahertz digital off-axis holography for non-destructive testing," IRMMW-THZ (International Conference on Infrared, Millimeter, and Terahertz Waves, Houston, TX, Oct. 2011)
85. DC Clark & MK Kim, "Time-dependent phase response of fluid interface to optical excitation," OSA Frontiers in Optics (San Jose, CA, Oct. 2011)
84. Y Wan, L Fan, H Hao, Y Zhu, WM Ash, MK Kim, & J Lin (Chinese Acad. Sci.), "Application of variable angle total internal reflection fluorescence microscopy in observation of phototropin1 in intact cells of arabidopsis thaliana," Int'l Symp. Plant Photobiology (ISPP) (Peking U, Beijing, China, July 2011).
83. C Liu, MK Kim, X Yu, & DC Clark, "Digital holographic adaptive optics for retinal imaging," OSA DH Topical Meeting (Tokyo, Japan, May 2011)
82. X Yu, C Liu, DC Clark, & MK Kim, "Measurement of Young's modulus of polyacrylamide gel by digital holography," OSA DH Topical Meeting 1059056 (Tokyo, Japan, May 2011)
81. DC Clark, & MK Kim, "Decoupling of thermal effects to image nanometric optical pressure deformation by digital holography," OSA DH Topical Meeting (Tokyo, Japan, May 2011)
80. Martin Heimbeck (US Army Research Development and Engineering Command, Redstone Arsenal, AL), MK Kim, DA Gregory, HO Everitt, "Terahertz digital off-axis holography via angular spectrum and dual wavelength reconstruction methods," OTST-11 (Optical Terahertz Science and Technology) (Santa Barbara, CA, Mar., 2011).
79. M Potcoava, L Krzewina, E Hoover, MK Kim, F Squier, DWM Marr, & R Jimenez, "3D Optical trapping calibration and optical micromanipulation using 915 nm diode laser bar," SPIE BiOS (San Francisco, CA, Jan. 2011).
78. MK Kim, M Potcoava, & L Krzewina, "Three-dimensional position and force calibration of an optical trap by digital Gabor holography," SPIE BiOS (San Francisco, CA, Jan. 2011).
77. D Clark & MK Kim, "Nanometric measurement of optical pressure deformation of fluid interface by digital holography," SPIE BiOS (San Francisco, CA, Jan. 2011).
76. M Heimbeck, MK Kim, DA Gregory, & HO Everitt, "Terahertz digital holography using angular spectrum and dual wavelength reconstruction methods," International Workshop on Optical Terahertz Science and Technologies (Santa Barbara, CA, Mar. 2011)
75. M Potcoava, L Krzewina, & MK Kim, "Three-dimensional tracking of optically trapped particles by digital Gabor holography," OSA DH Topical Meeting (Miami, FL, Apr. 2010)
74. WM Ash, DC Clark, CM Lo, & MK Kim, "Quantitative characterization of cellular adhesions with total internal reflection holographic microscopy," OSA DH Topical Meeting (Miami, FL, Apr. 2010)
73. DC Clark, L Krzewina, & MK Kim, "Quantitative analysis by digital holography of the effect of optical pressure on a biological cell," OSA DH Topical Meeting (Miami, FL, Apr. 2010)
72. WM Ash, D Clark, L Krzewina, & MK Kim, "Total internal reflection holographic microscopy for quantitative phase characterization of cellular adhesion," SPIE BIOS (Jan. 2010, San Francisco, CA)
71. MK Kim & MC Potcoava, "Fingerprint biometry applications of digital holography and low-coherence interference microscopy," OSA DH Topical Meeting (Vancouver, BC, Canada, 4/26-30, 2009)
70. WM Ash & MK Kim, "Quantitative phase imagery with total internal reflection holographic microscopy," OSA DH Topical Meeting (Vancouver, BC, Canada, 4/26-30, 2009)
69. MC Potcoava & MK Kim, "Fingerprints scanner using digital interference holography," SPIE Security (Orlando, Apr. 2009)

68. L Yu, S Mohanty, K Mohanty, G Liu, S Genc, MK Kim, Z Chen, & MW Berns, "Quantitative phase evaluation of dynamic changes on the cell membrane during laser microsurgery," SPIE Photonics West BiOS, paper 7182-36 (01/24~01/29 2009, San Jose, CA)
67. MC Potcoava, MK Kim, & CN Kay, "Wavelength scanning digital interference holography for high-resolution ophthalmic imaging," SPIE Photonics West BiOS, paper 7163-10 (01/24~01/29 2009, San Jose, CA)
66. WM Ash III & MK Kim, "Cellular imagery with total internal reflection holographic microscopy," SPIE Photonics West BiOS, paper 7182-9 (01/24~01/29 2009, San Jose, CA)
65. WM Ash III & MK Kim, "Total internal reflection holographic microscopy," OSA FiO (10/19-10/23 2008, Rochester, NY) postdeadline paper
64. CN Kay, MC Potcoava, MK Kim, DW Richards, & P Pavan, "Digital holography imaging of human macula," ASRS (Am Soc Retina Specialists) (10/11-15/2008, Maui, HI).
63. MC Potcoava, CN Kay, MK Kim, & DW Richards, "Digital interference holography in ophthalmology", ARVO (4/27-5/1/2008, Fort Lauderdale, FL)
62. A Restrepo-Martinez, R Castaneda, & MK Kim, "Two-views multiplexing in transmission digital holographic microscopy," OSA DH: Digital Holography and Three Dimensional Imaging (3/16-20/2008, St Petersburg, FL)
61. N Warnasooriya & MK Kim, "Optical phase unwrapping with laser-diode phase shifting interferometry," OSA DH: Digital Holography and Three Dimensional Imaging (3/16-20/2008, St Petersburg, FL)
60. A Khmaladze, A Restrepo-Martinez, MK Kim, R Castaneda & A Blandon, "Dual-wavelength reflection digital holography applied to the detection of pores in coal samples," OSA DH: Digital Holography and Three Dimensional Imaging (3/16-20/2008, St Petersburg, FL)
59. M Potcoava & MK Kim, "3D representation of retinal blood vessels through digital interference holography," OSA DH: Digital Holography and Three Dimensional Imaging (3/16-20/2008, St Petersburg, FL)
58. A Khmaladze & MK Kim, "Phase contrast movies of cell migration by multi-wavelength digital holography", OSA DH: Digital Holography and Three Dimensional Imaging (6/18-20/07, Vancouver, BC, Canada)
57. N Warnasooriya & MK Kim, "Phase-shifting interference microscopy with multi wavelength optical phase unwrapping", OSA DH: Digital Holography and Three Dimensional Imaging (6/18-20/07, Vancouver, BC, Canada), presented by A Khmaladze
56. MC Potcoava & MK Kim, "Animal tissue tomography by digital interference holography", OSA DH: Digital Holography and Three Dimensional Imaging (6/18-20/07, Vancouver, BC, Canada), presented by A Khmaladze
55. N Warnasooriya and MK Kim, "Quantitative phase microscopy by multi-wavelength phase-shifting interference microscopy", CLEO 2007, (May 6-11, 2007, Baltimore, MD). oral
54. A Khmaladze and MK Kim, "Quantitative phase contrast imaging of cells by multi-wavelength digital holography", CLEO 2007, (May 6-11, 2007, Baltimore, MD). poster
53. A. Restrepo, JHR Castaneda, CJ Mann, MK Kim, "3D models of palynofacies of coal using digital holography microscopy," 23rd Annual Meeting of the Society for Organic Petrology, Volume 23 Beijing China September 15-22 2006 ISBN10607250 (2006)
52. A. Restrepo, J.H. Castaneda, C. Mann, & M.K. Kim, "Transmission digital holography microscopy applied to the study of coal palynofacies", SPIE 6296, 6282OU-1 (2006)
51. C.J. Mann and M.K. Kim, "Quantitative biological microscopy of cells by digital holography", Opt. Soc. Am. Biomedical Optics Topical Meeting (Mar. 19-22, 2006, Ft. Lauderdale, FL) oral TuH7.

50. L.G. Krzewina and M.K. Kim, "Color structured illumination microscopy for imaging in noisy environments", Opt. Soc. Am. Biomedical Optics Topical Meeting (Mar. 19-22, 2006, Ft. Lauderdale, FL) poster TuI59.
49. A Khmaladze & M.K. Kim, "Imaging properties of scanning photon microscope", Opt. Soc. Am. Biomedical Optics Topical Meeting (Mar. 19-22, 2006, Ft. Lauderdale, FL) poster TuI74.
48. N Warnasooriya & M.K. Kim, "LED-based phase imaging interference microscopy with multi-wavelength optical phase unwrapping", Opt. Soc. Am. Biomedical Optics Topical Meeting (Mar. 19-22, 2006, Ft. Lauderdale, FL) poster TuI55.
47. CJ Mann & MK Kim, "Quantitative phase-contrast microscopy by angular spectrum digital holography", SPIE Photonics West (Jan. 21-26, 2006, San Jose, CA) BiOS 6090-31, oral presentation and paper.
46. L Krzewina & MK Kim, "Dynamic structured illumination microscopy: Focused imaging and optical sectioning of moving objects", SPIE Photonics West (Jan. 21-26, 2006, San Jose, CA) BiOS 6090-13, oral presentation and paper
45. A Khmaladze & MK Kim, "Use of Bessel beams and position-sensitive detectors in scanning photon microscope for improved field depth and contrast", SPIE Photonics West (Jan. 21-26, 2006, San Jose, CA) BiOS 6090-30, poster presentation and paper
44. N Warnasooriya & MK Kim, "Multi-wavelength phase imaging interference microscopy", SPIE Photonics West (Jan. 21-26, 2006, San Jose, CA) BiOS 6090-29, poster presentation and paper
43. M.K. Kim, L. Yu, and C.J. Mann, "Interference techniques in digital holographic microscopy", OMS05 Optical Microsystems (Capri, Italy, Sep. 2005) oral presentation
42. A. Khmaladze & M.K. Kim, "Scanning photon microscopy", SPIE Optics & Photonics 2005 (San Diego, CA, Aug. 2005) poster presentation 5873-20
41. L. Yu & M.K. Kim, "Full-color three-dimensional microscopy using white-light interference on a color camera", SPIE Optics & Photonics 2005 (San Diego, CA, Aug. 2005) oral presentation 5875-21
40. C.J. Mann and M.K. Kim, "Phase-imaging digital holographic movies of animal cells", oral presentation CWH1 by CJM, CLEO 2005 (May 22-27, 2005, Baltimore, MD)
39. L. Yu and M.K. Kim, "Tomography of animal tissues by digital interference holography", poster presentation JThE38 by LY, CLEO 2005 (May 22-27, 2005, Baltimore, MD)
38. L. Krzewina and M.K. Kim, "Three-dimensional microscopy by selective illumination with feedback", poster presentation JThE37 by MKK, CLEO 2005 (May 22-27, 2005, Baltimore, MD)
37. Christopher Mann & M.K. Kim, "Digital Gabor holographic movie of animal microbes", Opt. Soc. Am. Annual Meeting, (Rochester, NY, Oct. 10-14, 2004).
36. M.K. Kim, "Tomographic microscopy of biological tissues by digital interference holography", Opt. Soc. Am. Annual Meeting, (Rochester, NY, Oct. 10-14, 2004).
35. Lingfeng Yu & M.K. Kim, "Full-color tomographic imaging by full-field optical coherence microscopy", Opt. Soc. Am. Annual Meeting, (Rochester, NY, Oct. 10-14, 2004)
34. M.K. Kim and L. Yu, "Two-dimensional optical coherence tomography with natural color representation", SPIE-NIH Optical Imaging (Sep. 20-22, 2004, Bethesda, MD).
33. LF Yu & MK Kim, "Full-color two-dimensional optical coherence tomography", OSA Biomedical Topical Meetings, Miami, FL (April 14-17, 2004)
32. CJ Mann & MK Kim, "Digital Gabor holography for particle field imaging", OSA Biomedical Topical Meetings, Miami, FL (April 14-17, 2004)
31. M.K. Kim, "Microscopic tomography by digital interference holography", SPIE BiOS (Jan. 2004, San Jose, CA)
30. M.K. Kim and D. Parshall, "Phase imaging digital holography for biological microscopy", SPIE BiOS (Jan. 2004, San Jose, CA)

29. D. Parshall & M.K. Kim, "Phase-imaging digital holography for biological microscopy", Optics in the Southeast (Nov. 2003, Orlando, FL)
28. J. Gass & M.K. Kim, "Phase imaging without  $2\pi$ -ambiguity by digital interference holography", Opt. Soc. Am. Annual Meeting (Sept. 2002, Orlando, FL) Postdeadline paper PDP19.
27. M.K. Kim, "Micro-tomographic imaging of biological specimen by wavelength-scanning digital interference holography", CLEO (Baltimore, MD, May 5-11, 2001) CPD26-1
26. M.K. Kim, B.S. Ham, M.S. Shahriar, P.R. Hemmer, "Sub-kHz resonance structure in rf-optical double resonance of rare-earth ions in solids", OSA Annual Meeting, (Santa Clara, CA, Sep. 1999), Paper # TuN4.
25. M.K. Kim, "Axial resolution in digital interference holograms by wavelength scanning", OSA Annual Meeting, (Santa Clara, CA, Sep. 1999), Post-deadline Paper # PD7.
24. P.R. Hemmer, M.S. Shahriar, B.S. Ham, & M.K. Kim, "Raman excited spin coherences for high temperature spectral hole burning memories", SPIE 44th Annual Meeting, (Denver, CO, Jul. 1999), Proc. SPIE 3802, (1999)
23. M.K. Kim, B.S. Ham, P.R. Hemmer, and M.S. Shahriar, "Observation of sub-kilohertz resonance structure narrower than ground state inhomogeneous width in rf-optical double resonance of solids", APS Centennial Meeting, Atlanta, GA (Mar. 1999).
22. H. Sonajalg and M.K. Kim, "Perturbation & numerical analysis of Raman echo", OSA Annual Meeting, Baltimore, MD (Oct. 1998)
21. M.K. Kim, P.R. Hemmer, B.S. Ham, and M.S. Shahriar, "Efficient generation of Raman echo and time-domain optical data storage by electromagnetically induced transparency", SPIE Annual Meeting, San Diego, CA (July 1998).
20. B. S. Ham, P. R. Hemmer, M. K. Kim, and M. S. Shahriar, "Optical memory using resonant Raman pulse excited spin echoes", Opt. Soc. Am. Optical Data Storage Topical Meeting, Aspen, CO (May 1998), TuD18 [Proceedings of SPIE Vol. 3401, pp.225-231 (1998).]
19. B.S. Ham, M.S. Shahriar, M.K. Kim, and P.R. Hemmer, "Optical data storage by electromagnetically induced transparency and nondegenerate four-wave mixing in a spectral hole-burning solid", CLEO, San Francisco, CA (May 1998), Advance Program, p.76.
18. Y.R. Kim and M.K. Kim, "Linear associative memory of images using stimulated photon echoes", Opt. Soc. Am. Annual Meeting, Rochester, NY (Oct. 1996).
17. Y.R. Kim and M.K. Kim, "Storage and associative recall of images by stimulated photon echoes", 17th Congress of the International Commission for Optics (ICO XVII), Taejon, Korea (Aug. 1996), Proceedings p.561.
16. Y. Zhao, C. Wu, and M.K. Kim, "Lasing without population inversion in ruby by using low-frequency coupling", QELS, Baltimore, MD (May 1995), Advance Program, p.99.
15. M.K. Kim, Y. Zhao, and C. Wu, "Experimental evidence of electromagnetically induced transparency in ruby", OSA Annual Meeting, Dallas, TX (Oct. 1994), Postdeadline paper.
14. P. Talagala and M.K. Kim, "Phase conjugation property of photon echo in three level system", OSA Annual Meeting, Dallas, TX (Oct. 1994), Advance Program, p.177.
13. P. Talagala and M.K. Kim, "Temporal associative memory by stimulated photon echo", OSA Annual Meeting, Dallas, TX (Oct. 1994), Advance Program, p.177.
12. Y. Zhao, C. Wu, P. Shah, and M.K. Kim, "Experimental observation of phase conjugation in InGaAs/GaAs MQWs at 1.06  $\mu\text{m}$  wavelength", CLEO, Baltimore, MD (May 1993), Advance Program, p.93.
11. M.S. Shahriar, P.R. Hemmer, and M.K. Kim, "Raman-excited microwave spin echoes for optical data storage", OSA Annual Meeting, Albuquerque, NM (Sep. 1992), Tech. Digest, p.93.
10. P. Talagala and M.K. Kim, "Pattern recognition by photon echoes", OSA Annual Meeting, San Jose, CA (Nov. 1991), Tech. Digest, p.151.

9. P. Talagala, M.K. Kim, and R. Kachru, "Stimulated photon echo modulation in praseodymium-doped crystals", OSA Annual Meeting, Boston, MA (Nov. 1990), Tech. Digest, p. 93.
8. D. Manganaris and M.K. Kim, "Spatial binary multiplication by photon echoes", OSA Annual Meeting, Boston, MA (Nov. 1990), Tech. Digest, p. 125.
7. M.K. Kim and R. Kachru, "Multiple-bit long-term data storage by backward stimulated echo in  $\text{Eu}^{3+}:\text{YAlO}_3$ ", OSA Annual Meeting, Santa Clara, CA, Post-deadline Papers, p.3 (1988)
6. M.K Kim, and R. Kachru, "Many-bit optical data storage by backward stimulated photon echoes", IQEC, Tokyo, Japan, Post-deadline Papers, p.18 (1988).
5. M. Mitsunaga, M.K. Kim, and R. Kachru, "Degenerate photon echoes", IQEC, Tokyo, Japan, Technical Digest, p.562 (1988).
4. M.K. Kim, and R. Kachru, "Real-time image processing by backward stimulated photon echoes", IQEC, Tokyo, Japan, Tech. Digest, p. 322 (1988).
3. M.K. Kim, and R. Kachru, "Long-term storage and phase conjugation of time-resolved multiple images", OSA Annual Meeting, Rochester, NY, Tech. Digest, p. 24 (1987).
2. T.-H. Sun, M.K. Kim, and E.L. Hahn, "Rotary echo measurement of dipole transition matrix elements", CLEO, Digest of Tech. Papers, p. 134 (1985).
1. M.K. Kim, F.S. Moser, and R.P. Lin, "ISEE-1 observations of electrostatic shocks in the tail", EOS Trans., Am. Geophys. Union 61, SM142 (1980).

### **GRADUATE STUDENTS SUPERVISED**

23. Ahmad Khayat Jafari, "Large format digital holography using a flatbed scanner," PhD research in progress.
22. Changgeng Liu, "Digital holographic adaptive optics for ophthalmic imaging," PhD research in progress.
21. Xiao Yu, "Study of cellular motility on flexible substrates by digital holographic microscopy," PhD research in progress.
20. David C Clark, "Digital holographic measurement of nanometric optical excitation on soft matter optical pressure and photothermal interactions," PhD dissertation, USF (2012)
19. William Ash, "Total internal reflection holographic microscopy (TIRHM) for quantitative phase characterization of cell-substrate adhesion," PhD dissertation, USF (2010).
18. Mariana Potcoava, "Digital holography applications in ophthalmology, biometry, and optical trapping characterization", Ph.D. dissertation, USF (2009).
17. Alexander Khmaladze, "Three-dimensional microscopy by laser scanning and multi-wavelength digital holography", Ph.D. dissertation, USF (2008)
16. Nilanthi Warnasooriya, "Quantitative phase imaging microscopy with multi-wavelength optical phase unwrapping", Ph.D. dissertation, USF (2008).
15. Christopher Mann, "Quantitative biological microscopy by digital holography", Ph.D. dissertation, USF (2006).
14. Leo Krzewina, "Structured light for three-dimensional microscopy", Ph.D. dissertation, USF (2006).
13. Y.R. Kim, "Development of integrated multiangle-multiwavelength spectrophotometer for micron and submicron size particle characterization by simultaneous measurement of joint particle property distribution", Ph.D. dissertation, USF (2005)
12. D. Parshall, "Phase imaging digital holography for biological microscopy", M.S. thesis, USF (2004).
11. A. Dakoff, "Tomography of diffuse objects through distorting media using wavelength scanning digital interference holography", M.S. thesis, USF (2002).

10. J. Gass, "Elimination of  $2\pi$  ambiguity through two wavelength interference using digital holography", M.S. thesis, USF (2002).
9. K. Iwaejunwa, "Implementing off-axis computer generated holograms in the near-field", M.S. thesis, USF (2000).
8. Y.R. Kim, "Photon echo spatial linear associative memory", M.S. thesis, USF (1996).
7. B.S. Ham, "Experimental study of lasing without population inversion in ruby", Ph.D. dissertation, WSU. (1995).
6. P. Talagala, "Photon echo optical processing: spatio-temporal holography", Ph.D. dissertation, WSU. (1995).
5. S.H. Ling, "Simulation study of photon echo associative memory" M.S. thesis, WSU. (1995).
4. B.S. Ham, "External cavity amplification of photon echo", M.S. essay, WSU. (1993).
3. C. Zhang, "Quantum interference in three-level system interacting with lasers", M.S. essay, WSU. (1993).
2. H. Shu, "Spatial and temporal phase conjugation in photon echoes", M.S. essay, WSU. (1991).
1. D. Manganaris, "Phase conjugation and image processing of optical data using backward stimulated photon echo", M.S. thesis, WSU. (1990).

### **PROFESSIONAL SERVICES**

- General Co-Chair, OSA DH (Digital Holography & 3D Imaging) Topical Meeting (Apr. 2013, Kohala Coast, HI)
- Lead editor, Applied Optics feature issue on Digital Holography and 3D Imaging, to be published 2013
- Organize NMSC (National Math and Science Contest) sponsored by KSEA (Korean-American Scientists and Engineers Association) (Apr. 2012, Orlando, FL).
- Program committee, Laser-based Sensors, OSA Topical Meeting on Optical Sensors (June, 2012, Monterey, CA)
- International Conference Committee for "PHOTOPTICS 2013: International Conference on Photonics, Optics and Laser Technology" (Feb. 2013, Barcelona, Spain)
- General Chair, OSA DH (Digital Holography and 3D Imaging) Topical Meeting (Apr. 2012, Miami, FL)
- Topical editor for Applied Optics, Information Processing Division (2011-2014)
- Founding president of KSEA (Korean-American Scientists and Engineers Association), Tampa, FL Chapter. (2011-2012)
- Founding faculty advisor for USF Student Chapter of the Optical Society of America (2008-)
- Program Committee for OSA DH (Digital Holography and 3D Imaging) (2008- present)
- Judge Innovation Express young inventor's contest (2010)
- Co-editor of Applied Optics feature issue on "Digital holography and 3D imaging" (2011)
- Editorial board of Research Letters in Physics, Hindawi Publishing (2010)
- SPIE Visiting Lecturer (2005-)
- CLEO Program Committee on Active Optical Sensing (2005)
- SPIE membership committee (2004-2007)
- USF McNair Scholars Program Faculty Role Model Mentor Award (2003)
- Attending Physicist for photodynamic therapy at Moffitt Cancer Center (2000-2001)
- Consulting service on optical technology deployment for Silicon Valley Internet Capital (2000)

### **UNIVERSITY SERVICE**

#### **Physics Department**

- Physics Faculty Advisory Committee
- Physics Undergraduate Committee
- Physics Graduate Committee

- Physics Colloquium Committee
- Physics FOCM (Facility for Optical Characterization of Materials) Advisory Committee
- Physics faculty search committees
- Physics webmaster

**College of Arts & Sciences**

- CAS Computer Committee
- CAS Diversity Committee
- CAS Faculty Development Committee
- CAS Tenure & Promotion Committee
- SNSM (School of Natural Sciences and Mathematics) Tenure & Promotion Committee

**University**

- USF Undergraduate Council
- USF Council on Campus Environment and Diversity
- USF Research Council internal award panel for New Research Grant
- USF Research Council