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EDUCATION

Sep. 1998 –	Massachusetts Institute of Technology	Cambridge, MA
Jun. 2009	Ph.D. in Mechanical Engineering (Minor in Business Administration)	
Mar. 1993 –	Seoul National University	Seoul, Korea
Feb. 1995	M.S. in Mechanical Design and Production Engineering	
Mar. 1989 –	Seoul National University	Seoul, Korea
Feb. 1993	B.S. in Mechanical Design and Production Engineering, Magna Cum Laude	
Mar. 1986 –	Yong San High School	Seoul, Korea
Feb. 1989	Valedictorian (graduated as 1 st in the class of 1989)	

PH. D. DISSERTATION

- **Title:** Ultrafast Optical Pulse Manipulation in Three Dimensional-Resolved Microscopic Imaging and Microfabrication
- **Summary:** The availability of lasers with femtosecond ultrafast light pulses provides new opportunities and challenges in instrument design. This thesis addresses three aspects of utilizing ultrafast light pulses in two-photon absorption process. First, a thorough quantitative characterization of different conventional optical fibers and photonic crystal fibers enabling better utilization of these fibers for two-photon microscopic imaging is provided. Second, a comprehensive mathematical model is derived for depth-resolved wide-field two-photon microscope taking key instrument design parameters into account. By optimizing instrument design and using high two-photon cross section quantum dots, we demonstrate single quantum dot imaging at micron level resolution at video rate. Lastly, with depth-resolved wide-field illumination, a prototype three-dimensional lithographic microfabrication system is developed and micropatterning capability based on photobleaching process is demonstrated.

WORK EXPERIENCE

Mar. 2011 –	Dankook University	Yongin, Korea
Present	Assistant Professor <ul style="list-style-type: none">• Taught Mechatronics and Mechanical Project to undergraduate student• Researched on Spectroscopy, 3D wide-field microscopy and microfabrication instrumentation	
Sep. 2010 –	Full-Time Instructor	
Feb. 2011	<ul style="list-style-type: none">• Taught engineering mathematics and CAD/CAM to undergraduate student• Studied on 3D wide-field microscopy and microfabrication instrumentation	
Jun. 2009 –	FemtoFab, Inc.	Cambridge, MA
Aug. 2010	Co-Founder and Chief Technology Officer <ul style="list-style-type: none">• Founded a company which develops 3D microfabrication system and provides microfabrication service for 3D microfluidics and tissue engineering applications	
Aug. 1995 –	Korea Air Force Academy	Cheongju, Korea
Jun. 1998	Instructor & Full-Time Instructor <ul style="list-style-type: none">• Taught mechanical engineering core courses to cadets• Collaborated on a torpedo guidance control research project	

TEACHING EXPERIENCE

Sep. 2009 –	Massachusetts Institute of Technology	Cambridge, MA
Dec. 2009	Teaching Assistant for 2.996 Biomedical Optics <ul style="list-style-type: none">• Responsible for homework assignments and quizzes for graduate students of MIT and Singapore-MIT Alliance (SMA) program	
Sep. 2007 –	Teaching Assistant for 2.003 Dynamics and Control I	
Dec. 2007	<ul style="list-style-type: none">• Taught a MATLAB class for simulating system dynamics to sophomores majoring in mechanical engineering	
Sep. 2006 –	Teaching Assistant for 2.996 Biomedical Optics	
Dec. 2006	<ul style="list-style-type: none">• Responsible for homework assignments and quizzes for graduate students of MIT and Singapore-MIT Alliance (SMA) program	
Aug. 2006	Teaching Assistant for Summer School of Global Enterprise for Micro-Mechanics and Molecular Medicine <ul style="list-style-type: none">• Gave a lecture on basic principles of fluorescence microscopy• Demonstrated cellular and tissue imaging with multiphoton excitation fluorescence microscopy	
Feb. 2003 –	Teaching Assistant for 2.004 Modelling Dynamics and Control II	
May 2003	<ul style="list-style-type: none">• Taught a basic dynamics/control lab class to sophomores majoring in mechanical engineering	
Sep. 1995 –	Korea Air Force Academy	Cheongju, Korea
	Full-time Lecturer, Mechanical Engineering	

- Jun. 1998
- Taught the following undergraduate core mechanical engineering courses for 6 semesters
 - Engineering Mechanics
 - Introduction to Mechanical Engineering
 - Dynamics
 - Numerical Analysis
 - Introduction to Jet Engine

RESEARCH EXPERIENCE

- Massachusetts Institute of Technology** **Cambridge, MA**
- Jun. 2009 –
Aug. 2010
- Postdoctoral Associate, SoLab**
- Designs and implements 3D lithographic microfabrication based on ultrafast optical pulse manipulation in the application of tissue engineering and photonics
 - Collaborates with Prof. Tayyaba Hasan group at Massachusetts General Hospital for observing microrheological properties in vitro 3D tumor model by tracking particles with 3D wide-field two-photon microscopy
 - Collaborates with Prof. Joong-ho Moon group at Florida International University for characterizing the photochemical properties of conjugated nano particle (CPN) in fluorescence microscopy
 - Participates in the project for developing standing wave stimulated Raman scattering microscopy and collaborated with Prof. Shyamsunder Erramilli's group at Boston University
 - Develops high-throughput two-photon fluorescence microscopy based on multiple foci laser scanning and collaborates with Prof. Henry Yu's group at National University of Singapore for constructing liver fibrosis developing model.
- Nov. 2002 –
Jun. 2009
- Graduate Researcher, SoLab**
- Designed and implemented 3D lithographic microfabrication based on ultrafast optical pulse manipulation in the application of tissue engineering and photonics
 - Designed and developed various types of high-speed multiphoton excitation fluorescence microscopy in medical and life science applications
 - Collaborated with Prof. Daniel Blankschtein group at MIT on the visualization project of transdermal drug deliveries through the skin project
 - Worked on the implementation of standing wave total internal reflection fluorescence microscopy
 - Collaborated with Prof. Martin Culpepper group at MIT on the actuator design project for the multiphoton excitation fluorescence endoscopy
 - Participated in the implementation project of frequency domain lifetime and spectral imaging microscopy
- Jul. 2001 –
Aug. 2002
- Graduate Researcher, AgeLab**
- Worked on the design of heart rate variability (HRV) analyzer, which can be used to diagnose congestive heart failure in the elderly
- Jan. 1999 –
Jun. 2001
- Graduate Researcher, Human Machine Systems Laboratory**
- Involved in the development project of Intelligent Cardiopulmonary Healthcare System (ICHS), which monitors the condition of congestive heart failure (CHF) patients at home
- Korea Air Force Academy** **Cheongju, Korea**
- Sep. 1996 –
Dec. 1997
- Investigator, Mechanical Engineering**
- Developed digital controller for fin position control in the torpedo
- Seoul National University** **Seoul, Korea**
- Jan. 1993 –
Feb. 1995
- Graduate Researcher, Laboratory for Fluidpower Application and Factory Automation**
- Designed the nonlinear digital controller design for lockup clutch system in passenger car automatic transmission
- Jan. 1992 –
Feb. 1995
- Undergraduate Researcher, Laboratory for Fluidpower Application and Factory Automation**
- Analyzed travelling algorithm for military tank automatic transmission
 - Participated in the linear controller design project for unmanned helicopter hovering

KEY LEADERSHIP ROLE

- 2002 – 2005 **Massachusetts Institute of Technology** **Cambridge, MA**
1999 – 2001
- President / Vice President / Mentor / Webmaster, Korean Graduate Students Association (KGSA)**
- Represented a group of 200+ people, organized social events, and raised 30% more funds than previous years
 - Kicked off and co-led a sports event to bring together Korean graduate students in the Boston area
 - Improved communication between KGSA members through initiating web-based environment
- Member, The Committee on MIT-Korea Program Initiative**
- Initiated project to provide non-Korean MIT students with internship opportunities in Korea
 - Organized Korean language classes for non-native speakers of Korean students during Independent Activity Period
- 2004 – 2007 **Korean-American Scientists and Engineers Association (KSEA)** **Vienna, VA**
2002 – 2003 **Treasurer / Public Affairs / Graduate Students Affairs, New England Chapter (KSEA-NE)**
2000 – 2001
- Commenced and co-hosted academic conference for young professionals with KGSA at MIT
 - Facilitated communication between graduate students associations and social communities in New England
- Sep. 1997 – **Korea Air Force Academy** **Cheongju, Korea**

- Nov. 1997 **Director, the 1st Sungmoor Robot Competition (ROBOCON)**
 • Initiated and organized a new robot competition at Korea Air Force Academy (modelled after Course 2.007 Design and Manufacturing I at MIT).
 • With most of the junior cadets majoring in mechanical engineering voluntarily participating, the competition was recognized as the most attractive event during cadet's festival in Nov. 1997,
- Sep. 1996 – **Seoul National University** **Seoul, Korea**
 Nov. 1996 **Representative, Class of 1993, Mechanical Design and Production Design**
 • Organized student activities and served as liaison between students and faculty

HONORS AND AWARDS

- Feb. 2009 **15th Annual Samsung Humantech Thesis Prize** (hosted by Samsung Electronics) **Seoul, Korea**
 • Honor prize winner in graduate level
 • Thesis title: Three-Dimensional (3D) Lithographic Microfabrication System on Spatial Light Manipulation of Ultrafast Optical Pulse
- Nov. 2006 **2nd 'Inside Edge' International Thesis Competition** (hosted by Samsung Electro-mechanics) **Suwon, Korea**
 • Bronze prize winner
 • Thesis title: Ultrashort Optical Pulse Delivery for Nonlinear Microscopy
- Feb. 2006 **12th Annual Samsung Humantech Thesis Prize** (hosted by Samsung Electronics) **Seoul, Korea**
 • Silver prize winner (co-author) in graduate level
 • Thesis title: Ultra-high Resolution Optical Imaging beyond the Diffraction Limit by Use of Evanescent Wave
- Sep. 1998 – **Ilju Academic and Cultural Research Foundation Scholarship** **Seoul, Korea**
 Aug. 2003 • Winner in mechanical engineering field to study abroad
- Mar. 1990 – **Songwon Kim Yeong Hwan Scholarship Foundation Scholarship** **Seoul, Korea**
 Feb. 1995 • Granted for excellence in academic performance
- Mar. 1988 – **Yong San High School Alumni Scholarship** **Seoul, Korea**
 Feb. 1989 • Awarded as 1st among the class of 1989

PUBLICATIONS

- Jae Won Cha, Elijah Y. S. Yew, **Daekeun Kim**, Jaichandar Subramanian, Elly Nedivi, and Peter T. C. So, " Non-descanned Multifocal Multiphoton Microscopy with multianode photomultiplier tube," *Biomedical Optics Express* (under review)
- Namjoon Heo, Jaeyeol Lee, Hyundo Shin, Jeonghoon Yoo, and **Daekeun Kim**, "Inverse design of the absorbing layer for detection enhancement in near-infrared range," *Optics Express* **21**(20) , 23220-23230 (2013)
- Hyun-jun Soh, Jeonghoon Yoo, and **Daekeun Kim**, "Optimal design of the light absorbing layer in thin film silicon solar cells," *Solar Energy* **86**(7) , 2095-2105 (2012)
- **Daekeun Kim** and Jaehoon Jung, "Optimal Design of Dielectric-Filled Plasmonic Slot Waveguide with Genetic Algorithm," *Journal of the Optical Society of Korea* **16**(1) , 70-75 (2012)
- **Daekeun Kim** and Peter T. C. So, "High-Throughput three-dimensional lithographic microfabrication," *Optics Letters* **35**(10) , 1602-1604 (2010)
- Wei-Liang Chen, Chen-Kuan Chou, Ming-Gu Lin, Yang-Fang Chen, Shiou-Hwa Jee, Hsin-Yuan Tan, Tsung-Hua Tsai, Ki Hean Kim, **Daekeun Kim**, Peter T. C. So, Sung-Jan Lin, and Chen-Yuan Dong, "Single-wavelength reflected confocal and multiphoton microscopy for tissue imaging," *Journal Of Biomedical Optics* **14**(5), 054026 (2009)
- Wei-Liang Chen, Tsung-Hsian Li, Ping-Jung Su, Chen-Kuan Chou, Peter Tramyon Fwu, Sung-Jan Lin, **Daekeun Kim**, Peter T. C. So, and Chen-Yuan Dong, "Second harmonic generation χ tensor microscopy for tissue imaging," *Applied Physics Letters* **94**(18), 183902 (2009).
- **Daekeun Kim**, Heejin Choi, Siavash Yazdanfar, and Peter T. C. So, "Ultrafast optical pulse delivery with fibers for nonlinear microscopy," *Microscopy Research And Technique* **71**(12), 887-896 (2008).
- Saswata Ghosh, **Daekeun Kim**, Peter T. C. So, and Daniel Blankschtein, "Visualization and quantification of skin barrier perturbation induced by surfactant-humectant systems using two-photon fluorescence microscopy," *Journal of cosmetic science* **59**(4), 263-289 (2008).
- Euiheon Chung, **Daekeun Kim**, Yan Cui, Yang-Hyo Kim, and Peter T. C. So, "Two-Dimensional Standing Wave Total Internal Reflection Fluorescence Microscopy: Super-Resolution Imaging of Single Molecular and Biological Specimens," *Biophysical Journal* **93**(5), 1747-1757 (2007).
- Joseph Kushner, **Daekeun Kim**, Peter T. C. So, Daniel Blankschtein, and Robert Langer, "Dual-Channel Two-Photon Microscopy Study of Transdermal Transport in Skin Treated with Low-Frequency Ultrasound and a Chemical Enhancer," *Journal of Investigative Dermatology* **127**(12), 2832-2846 (2007).
- Serge Pelet, Michael J. R. Previte, **Daekeun Kim**, Ki Hean Kim, Tsu-Te J. Su, and Peter T. C. So, "Frequency domain lifetime and spectral imaging microscopy," *Microscopy Research And Technique* **69**(11), 861-874 (2006).
- Euiheon Chung, **Daekeun Kim**, and Peter T. C. So, "Extended resolution wide-field optical imaging: objective-launched standing-wave total internal reflection fluorescence microscopy," *Optics Letters* **31**(7), 945-947 (2006).
- **Daekeun Kim**, "Analysis of Hydraulic Circuit in Automatic Transmission lockup Clutch", *Journal of Korea Air Force Academy* **38**,

GRANTS

- **Daekeun Kim** (PD/PI), " The development of high-speed imaging technology for measuring 3D profile in the functional surface," Grant Number 2014R1A1A1005583, National Research Foundation (NRF), Korea
Period: May 1st, 2014 – April 30th, 2017 (3 years)
- **Daekeun Kim** (PD/PI) et al., " The development of high-resolution high-speed two-photon excitation optical technology and equipment," Grant Number 10047579, Korea Evaluation Institute of Industrial Technology (KEIT), Korea
Period: October 1st, 2013 – September 30th, 2016 (3 years)
- Philsang Chung(PD/PI), **Daekeun Kim** (Co-PI) et al., "Beckman Laser Institute," Grant Number 2012K1A4A3053142, National Research Foundation (NRF), Korea
Period: December 1st, 2012 – July 31st, 2014 (1.67 years)
- Noo Li Jeon (PD/PI), **Daekeun Kim** (Co-PI) et al., " Development of high-contents three-dimensional in vitro cell culture assay and high-throughput automated analysis system," Grant Number 2011-0032211, National Research Foundation (NRF), Korea
Period: June 1st, 2012 – August 31st, 2013 (1.25 years)
- Changkyu Song (PD/PI), Sungchul Jee (Co-PI), **Daekeun Kim** (Co-PI) et al., " Development of a simulator for control & anti-vibration characteristics of machinery equipment," Grant Number 10033735, Korea Evaluation Institute of Industrial Technology (KEIT), Korea
Period: June 1st, 2012 – December 31st, 2013 (1.58 years)
- Sungho Lee (PD/PI), **Daekeun Kim** (Co-PI) et al., " Fabrication technology for organic/inorganic hybrid nanostructures," Grant Number 10033871, Korea Evaluation Institute of Industrial Technology (KEIT), Korea
Period: June 1st, 2012 – May 31st, 2014 (2 years)
- **Daekeun Kim** (PD/PI), "The Development of High-Throughput Three-Dimensional Digital Lithographic Microfabrication System," Grant Number 2011-0007793, National Research Foundation (NRF), Korea
Period: May 1st, 2011 – April 30th, 2014 (3 years)
- Peter T. C. So (PD/PI) and **Daekeun Kim** (Co-PI), "High Throughput Manufacturing for Three-Dimensional Microfluidic Devices," Grant Number R44 EB012415-01, National Institute of Health (NIH) Small Business Innovation Research (SBIR), U.S.A.
Period: March 1st, 2011 – August, 31st, 2013 (Phase I: 6 months, Phase II: 2 years)

PATENTS

- **Daekeun Kim** and Peter T. C. So, "3D Two-Photon Lithographic Microfabrication" Patent Number US 7902526 B2, March 8th, 2011

PUBLICATIONS IN PREPARATION

- **Daekeun Kim**, Ki Hean Kim, and Peter T. C. So, "High-speed Handheld miniaturized multifocal multiphoton excitation fluorescence microscopy"
- **Daekeun Kim**, Karsten Balmann, and Peter T. C. So, "Multifocal multiphoton excitation fluorescence spectroscopy"
- Heejin Choi, Shih-Chi Chen, **Daekeun Kim**, Logan Munro, Martin Culpepper, and Peter T. C. So, "Design of single focus multiphoton excitation fluorescence endoscopy"
- **Daekeun Kim** and Peter T. C. So, "Image Correlation Spectroscopy with Depth-Resolved Wide-Field Multiphoton Microscopy"
- **Daekeun Kim** and Peter T. C. So, "Photon Counting by Large Area Detection with Multianode Photomultiplier Tube in High-Throughput Multiphoton Microscopy"

PROCEEDINGS

- **Daekeun Kim** and Peter T. C. So, " High-throughput three-dimensional (3D) lithographic microfabrication in biomedical applications," *Proceedings of SPIE 7569*, Multiphoton Microscopy in the Biomedical Sciences X, 75691V, 2010
- Wei-Liang Chen, Tsung-Hsian Li, Ping-Jung Su, Chen-Kuan Chou, Peter Tramyon Fwu, Sung- Jan Lin, **Daekeun Kim**, Peter T. C. So, and Chen-Yuan Dong, " Second-order susceptibility imaging with polarization-resolved second harmonic generation microscopy," *Proceedings of SPIE 7569*, Multiphoton Microscopy in the Biomedical Sciences X, 75691P, 2010
- Peter T. C. So and **Daekeun Kim**, "Depth resolved wide field illumination for biomedical imaging and fabrication," *Conference Proceedings of IEEE*, Engineering in Medicine and Biology Society 2009, 3234-3235, 2009
- **Daekeun Kim** and Peter T. C. So, "Three-dimensional (3D) high-speed imaging and fabrication system based on ultrafast optical pulse manipulation," *Proceedings of SPIE 7183*, Multiphoton Microscopy in the Biomedical Sciences IX, 71831B, 2009
- **Daekeun Kim** and Peter T. C. So, "Axial resolution for two-photon wide-field illumination microscopy and microfabrication," *Proceedings of SPIE 6860*, Multiphoton Microscopy in the Biomedical Sciences VIII, 686028, 2008
- Euiheon Chung, **Daekeun Kim**, and Peter T. C. So, "Toward the Development of Wide-field Super-Resolution Microscopy by Use of Standing Evanescent Waves," *Proceedings of the 4th International Symposium on Nanomanufacturing*, 2006
- Shih-Chi Chen, Heejin Choi, **Daekeun Kim**, Logan Munro, Martin L. Culpepper, and Peter T. C. So, "Design of a High-speed,

Micro-scale Fast Scanning Stage for Two-photon Endomicroscopy," *Proceedings of the Annual Meeting of the ASPE*, pp. 279–282, 2006

- **Daekeun Kim**, Ki Hean Kim, Siavash Yazdanfar, and Peter T. C. So, "Optical biopsy in high-speed handheld miniaturized multifocal multiphoton microscopy," *Proceedings of SPIE 5700*, Multiphoton Microscopy in the Biomedical Sciences V, 14-22, 2005
- Euiheon Chung, **Daekeun Kim**, and Peter T. C. So, "Ultra-High Resolution Optical Imaging beyond the Diffraction Limit," *Proceedings of the 2nd International Symposium on Nanomanufacturing*, 2004
- **Daekeun Kim**, Ki Hean Kim, Siavash Yazdanfar, and Peter T. C. So, "High-speed handheld multiphoton multifoci microscopy," *Proceedings of SPIE 5323*, Multiphoton Microscopy in the Biomedical Sciences IV, 267-272, 2004
- Sihyung Lim, **Daekeun Kim**, and Kyo Il Lee, "The Position Control System Design of Actuator Part in Underwater Vehicle Considering the Sea Load Torque Model," *Proceedings of the 7th Guided Weapon Conference*, 389-393, 1997
- **Daekeun Kim**, Soon Bae Jung, and Kyo Il Lee, "A Study on Pressure Control Using High Speed Solenoid Valve," *Proceedings of Korea Automatic Control Conference*, 157-162, 1994.
- Soon Bae Jung, **Daekeun Kim**, and Kyo Il Lee, "A Study on the Reduction of Hydraulic Fluctuation and Nonlinear Characteristics for PWM Valve," *Proceedings of Korea Society of Mechanical Engineering*, 101-105, 1993.
- Yeo Wook Cho, Soon Bae Jung, **Daekeun Kim**, and Kyo Il Lee, "A Study on the Shift Schedule of Automatic Transmission," *Proceedings of Korea Society of Automotive Engineering*, 80-86, 1993.

CONFERENCE PAPERS

- **Daekeun Kim** and Peter T. C. So, "Three-Dimensional Lithographic Microfabrication Based on Multiphoton-Induced Wide Field Illumination," BMD53, Biomedical Optics Topical Meetings, St. Petersburg, FL, USA, March 16-19, 2008
- Euiheon Chung, **Daekeun Kim** and Peter T. C. So, "Super-Resolution Wide-Field Imaging: Objective-Launched Standing Wave Total Internal Reflection Fluorescence Microscopy," Tul46, Biomedical Optics Topical Meetings, Ft. Lauderdale, FL, USA, March 19-22, 2006
- **Daekeun Kim** and Peter T. C. So, "Characterizations of Pulsed Laser Delivery with Fibers in Multiphoton Microscopy," Tul70, Biomedical Optics Topical Meetings, Ft. Lauderdale, FL, USA, March 19-22, 2006
- Heejin Choi, Shih-Chi Chen, **Daekeun Kim**, Peter T. C. So, and Martin L. Culpepper, "Design of a Nonlinear Endomicroscope Biopsy Probe," Tul69, Biomedical Optics Topical Meetings, Ft. Lauderdale, FL, USA, March 19-22, 2006
- Peter So, **Daekeun Kim**, and Siavash Yazdanfar, "Endoscopic two-photon imaging," MY4, Frontiers in Optics 2003 87th OSA Annual Meeting, Tucson AZ, USA, October 5-9, 2003

CONFERENCE ABSTRACTS

- Yang-Hyo Kim, **Daekeun Kim**, Shyamsunder Erramilli, and Peter T. C. So, "High Resolution Wide Field Stimulated Raman Scattering Microscopy," *Biophysical Journal* **98**(3), 180A (2010).
- **Daekeun Kim**, Hyungsuk Lee, Yongdae Shin, and Peter T. C. So, "High Throughput High Sensitivity Depth Resolved Wide Field Microscopy," *Biophysical Journal* **98**(3), 180A (2010).
- Heejin Choi, Shih-Chi Chen, **Daekeun Kim**, Logan Munro, Martin L. Culpepper, and Peter T. C. So, "Design of Nonlinear Endomicroscope," Photonics West 2007 BiOS 2007, San Jose, CA, USA, January 20-25, 2007
- Serge Pelet, Michael J. R. Previte, **Daekeun Kim**, Ki Hean Kim, Nur A. A. Rahim, Robert Metzke, Roger D. Kamm, and Peter T. C. So, "Spectrally resolved lifetime imaging to quantify Fluorescence Resonant Energy Transfer (FRET) in a two-photon microscope," *Biophysical Journal* **88**(1), 339A (2005).
- Euiheon Chung, **Daekeun Kim**, and Peter T. C. So, "Objective-launched standing wave total internal reflection microscopy," *Biophysical Journal* **88**(1), 345A (2005).

ORAL PRESENTATIONS

- **Daekeun Kim**, "High-Throughput Three-Dimensional (3D) Lithographic Microfabrication," Photonics West BiOS 2010, San Francisco, CA, USA, January 26, 2010
- **Daekeun Kim**, "High-Speed Imaging and Fabrication Based on Ultrafast Optical Pulse Manipulation," Photonics West BiOS 2009, San Jose, CA, USA, January 27, 2009
- **Daekeun Kim**, "Fiberoptic multiphoton excitation microscopy for in vivo optical biopsy: handheld microscopy and endomicroscopy", Photonics West BiOS 2006, San Jose, CA, USA, January 24, 2006
- **Daekeun Kim**, "Optical biopsy in high-speed handheld miniaturized multifocal multiphoton microscopy", Photonics West BiOS 2005, San Jose, CA, USA, January 23, 2005
- **Daekeun Kim**, "High-speed handheld multiphoton multifoci microscopy", Photonics West BiOS 2004, San Jose, CA, USA, January 27, 2004

POSTER PRESENTATIONS

- **Daekeun Kim**, Hyungsuk Lee, Yongdae Shin, Yenyu Chen, Roger D. Kamm, Matthew J. Lang, and Peter T. C. So, "High-Throughput High-Sensitivity Wide-Field Multiphoton Microscopy," Biophysical Meeting 2010, San Francisco, CA, USA, February 20-24, 2010

- Yang-Hyo Kim, **Daekeun Kim**, Shyamsunder Erramilli, and Peter T. C. So, " High Resolution Wide Field Stimulated Raman Scattering Microscopy," Biophysical Meeting 2010, San Francisco, CA, USA, February 20-24, 2010
- **Daekeun Kim** and Peter T. C. So, "3D Lithographic microfabrication System with Two-Photon Excitation Induced by Wide-Field Illumination," Gordon Research Conference, Laser in Medicine and Biology, Holderness School, NH, USA, July 20-25, 2008
- **Daekeun Kim** and Peter T. C. So, "3D Lithographic microfabrication System with Two-Photon Excitation Induced by Wide-Field Illumination," Biomedical Optics Topical Meetings, St. Petersburg, FL, USA, March 16-19, 2008
- **Daekeun Kim** and Peter T. C. So, "Axial Resolution for Two-Photon Wide-Field Illumination Microscopy and Microfabrication," Photonics West 2008 BiOS 2008, San Jose, CA, USA, January 20, 2008
- **Daekeun Kim** and Peter T. C. So, "Spatiotemporal Image Correlation Spectroscopy with Widefield Multiphoton Microscopy," World Congress on Medical Physics and Biomedical Engineering, Seoul, Korea, August 27 – September 1, 2006
- **Daekeun Kim** and Peter T. C. So, "Widefield Multiphoton Microscopy Using Quantum Dots," Gordon Research Conference, Laser in Medicine and Biology, Holderness School, NH, USA, July 2-7, 2006
- **Daekeun Kim** and Peter T. C. So, "Characterizations of Pulsed Laser Delivery with Fibers in Multiphoton Microscopy," Biomedical Optics Topical Meetings, Ft. Lauderdale, FL, USA, March 19-22, 2006
- Heejin Choi, Shih-Chi Chen, **Daekeun Kim**, Peter T. C. So, and Martin L. Culpepper "Design of a Nonlinear Endomicroscope Biopsy Probe," Biomedical Optics Topical Meetings, Ft. Lauderdale, FL, USA, March 19-22, 2006
- Euiheon Chung, **Daekeun Kim**, and Peter T. C. So, "Super-Resolution Wide-Field Imaging: Objective-Launched Standing Wave Total Internal Reflection Fluorescence Microscopy, " Biomedical Optics Topical Meetings, Ft. Lauderdale, FL, USA, March 19-22, 2006
- Euiheon Chung, **Daekeun Kim**, and Peter T. C. So, "Super-Resolution Wide-Field Optical Microscopy Using Standing Evanescent Waves," BMES 2005 Annual Fall Meeting, Baltimore, MD, USA, September 28- October 1, 2005
- Serge Pelet, Michael J. R. Previte, **Daekeun Kim**, Ki Hean Kim, Aida Abdul Rahim, Robert Metzke, Roger Kamm, and Peter T. C. So, "Spectrally resolved lifetime imaging to quantify Fluorescence Resonant Energy Transfer (FRET) in a two-photon microscope," Biophysical Society 49th Annual Meeting, Long Beach, CA, USA, February 12-16, 2005
- Euiheon Chung, **Daekeun Kim**, and Peter T. C. So, "Objective-launched standing wave total internal reflection microscopy," Biophysical Society 49th Annual Meeting, Long Beach, CA, USA, February 12-16, 2005

BOOKS

- **Daekeun Kim**, Soon Bae Jung, and Jae Hee Kim, "Everything about i80C196KC, " Ohm Press, Korea, 1998 (ISBN 89-7101-725-2)
- Soon Bae Jung, **Daekeun Kim**, Woo Sun Lee, "The Architecture of i80C196 – Mechatronics," Intel Technology Press, Korea, 1994 (ISBN 89-85488-24-4)

BOOK CHAPTERS

- David A Boas, Constantinos Pitris, and Nimmi Ramanujam (Editors in Chief), "Handbook of Biomedical Optics, " CRC Press, 2010 (ISBN: 978-1-4200-9036-9), **To be printed**
 - Chapter 5. Nonlinear Optical Microscopy for Biology and Medicine, **Daekeun Kim**, Heejin Choi, Jaewon Cha, Barry R. Masters, and Peter T. C. So
- Barry Masters and Peter T. C. So (Editors in Chief), "Handbook of Biomedical Nonlinear Optical Microscopy, " Oxford University Press, 2008 (ISBN: 978-0-1951-6260-8)
 - Chapter 9. Ultrashort Optical Pulse Delivery for Nonlinear Optical Microscopy, **Daekeun Kim**
 - Chapter 10. An Optical Design Primer for Nonlinear Optical Microscopes, Peter T.C. So and **Daekeun Kim**
 - Chapter 18. High-speed Imaging Using Multiphoton Excitation Microscopy, Ki H. Kim, Karsten Bahlmann, Timothy Ragan, **Daekeun Kim**, and Peter T. C. So
- Wendy A. Rogers and Arthur D. Fisk (Editors in Chief), "Human Factors Interventions for the Health Care of Older Adults, " Lawrence Erlbaum Associates, 2001 (ISBN: 978-0-8058-2300-4)
 - Chapter 11. Communications in Heath Care Tactics for Old Adults: The Case of Heart Patients, Thomas B. Sheridan, Joseph F. Coughlin, **Daekeun Kim**, James M. Thompson

ARTICLES

- **Daekeun Kim**, "Two Best Lectures at MIT – Harmony between Engineering Intuition and Application", *Science Dong-A* **201**, 184-189, 2002

OTHER INFORMATION

- Language: Fluent in English and native in Korean
- Computer skills: Excellent in C/C++, java, php, MATLAB, OrCAD, and Labview. Certificate of Information Processing Engineer
- Hardware Design: Excellent in embedded controller application design, and good in high-speed circuit and FPGA application design
- Interests: Swimming, Tennis, Skiing, Squash and Golf

REFERENCES

Peter T. C. So, Ph.D.
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