

**GANGJUN LIU, Ph.D.**

Casey Eye Institute,  
Oregon Health & Science University,  
3375 SW Terwillinger Blvd,  
Portland, OR 97239  
Phone: 503.494.1616  
Cell: 949-232-5969  
[liga@ohsu.edu](mailto:liga@ohsu.edu)

**Professional experiences**

2014.7~now **Assistant Professor (joint)**

Department of Biomedical Engineering, School of Medicine  
Oregon Health & Science University ([www.ohsu.edu](http://www.ohsu.edu)), Portland, OR, U.S.A.

2013.10~now **Assistant Professor**

Casey Eye Institute, School of Medicine  
Oregon Health & Science University ([www.ohsu.edu](http://www.ohsu.edu)), Portland, OR, U.S.A.

2011.4~2013.9 **Assistant Specialist**

Department of Biomedical Engineering, Beckman Laser Institute  
University of California, Irvine ([www.bli.uci.edu](http://www.bli.uci.edu)), Irvine, CA, U.S.A.

2007.8~2011.3 **Postdoctoral scholar**

Department of Biomedical Engineering, Beckman Laser Institute  
University of California, Irvine ([www.bli.uci.edu](http://www.bli.uci.edu)), Irvine, CA, U.S.A.

2004.7~2007.7 **Engineer**

Physical and Electrical Laboratory, Department of Technology  
STMicroelectronics ([www.st.com](http://www.st.com)), Singapore

2003.12~2004.7 **Lecturer**

Institute of Optics and Photonics, Department of Physics  
Shanghai Jiao Tong University, (<http://en.sjtu.edu.cn/>), Shanghai, China

**Education**

2007.8~2011.3. Postdoctoral scholar, University of California, Irvine, Irvine, U.S.A.

1998.9~2003.12 Ph.D. in Optics, Shanghai Jiao Tong University, Shanghai, China

1994.9~1998.7 B.S. in Electrical Engineering, Xi'an Jiao Tong University, Shaanxi, China

1996.1~1998.1 Sino-British English Minor Program, Xi'an Jiao Tong University, Shaanxi, China

**Journal reviewer**

Optics Letters, Optics Express, Journal of Biomedical Optics, Biomedical Optics Express, Applied Optics, Journal of Biophotonics, IEEE/OSA Journal of Lightwave Technology, IEEE Journal of Quantum Electronics, Chinese Optics Letters, Clinical and Experimental Ophthalmology.

**Professional membership**

The international society for optics and photonics-SPIE (2008~), Optical Society of America -OSA (2010, 2012~), Society for Clinical and Translational Science -SCTS (2011~), Nature reader panel (2010~2011), The Association for Research in Vision and Ophthalmology(2014~).

**Honors and awards**

“Guang hua” scholarship, 2002, Shanghai Jiao Tong University

Excellent graduate, 1998, Xi'an Jiao Tong University

Excellent student, 1995-1997, Xi'an Jiao Tong University

**Peer-reviewed Journal Publications**

1. Yali Jia<sup>^</sup>, **Gangjun Liu<sup>^</sup>**, Andrew Y. Gordon, Simon S. Gao, Alex D. Pechauer, Jonathan Stoddard, Trevor J. McGill, Ashwath Jayagopal, and David Huang, "Spectral fractionation detection of gold nanorod contrast agents using optical coherence tomography", **Optics Express**, Vol. 23, Issue 4, pp. 4212-4225 (2015).
2. Alexander J. Lin, **Gangjun Liu**, Nicholas A. Castello, James J. Yeh, Rombod Rahimian, et al."Optical imaging in an Alzheimer's mouse model reveals amyloid- $\beta$ -dependent vascular impairment", **Neurophoton.** 1(1), 011005 (2014).

3. Yongzhao Du, **Gangjun Liu**, Guoying Feng and Zhongping Chen, "Speckle reduction in optical coherence tomography images based on wave atoms", **J. Biomed. Opt.** 19(5), 056009 (May 13, 2014).
4. **Gangjun Liu**, Wangcun Jia, J. Stuart Nelson, and Zhongping Chen. "In vivo, high-resolution, three-dimensional imaging of port wine stain microvasculature in human skin." **Lasers in surgery and medicine** 45(10) ,628-632 (2013).
5. Xiangqun Xu, Jing Geng, **Gangjun Liu** and Zhongping Chen, "Evaluation of optical coherence tomography for the measurement of the effects of activators and anticoagulants on the blood coagulation in vitro," **IEEE Trans Biomed Eng.** 60(8):2100-6 (2013).
6. **Gangjun Liu** and Zhongping Chen, "Capturing the vital vascular fingerprint with optical coherence tomography," **Appl. Opt.** 52, 5473-5477 (2013).
7. **Gangjun Liu**, Zhongping Chen, "Advances in Doppler OCT", **Chinese Optics Letters** .11(1), 011702- (2013).
8. Wenjuan Qi ; Ruimin Chen ; Lidek Chou ; **Gangjun Liu** , et al."Phase-resolved acoustic radiation force optical coherence elastography", **J. Biomed. Opt.** 17(11), 110505 (Nov 02, 2012).
9. **Gangjun Liu**, Alexander J. Lin, Bruce J. Tromberg, and Zhongping Chen, "A comparison of Doppler optical coherence tomography methods," **Biomed. Opt. Express** 3, 2669-2680 (2012)
10. Shanshan Liang, Arya Saidi, Joseph Con Jing, **Gangjun Liu**, Jiawen Li, Jun Zhang, Changsen Sun, Jagat Narula, Zhongping Chen. "Intravascular atherosclerotic imaging with a combined fluorescence and OCT probe based on a DCF combiner", **Journal of Biomedical Optics**, 17, 070501 (2012).
11. **Gangjun Liu\***, Wangcun Jia, Victor Sun, Bernard Choi, and Zhongping Chen, "High-resolution imaging of microvasculature in human skin in-vivo with optical coherence tomography", **Optics Express**, 20, 7694–7705 (2012).
12. Supei Moon, **Gangjun Liu**, and Zhongping Chen\*, "Mode-filtered large-core fiber for short-pulse delivery with reduced nonlinear effects," **Optics Letters**, 36, 3362-3364 (2011).
13. **Gangjun Liu**, Marc Rubinstein, Arya Saidi, Wenjuan Qi, Allen Foulad, Brian Wong and Zhongping Chen\*, "Imaging vocal fold vibration with a high speed 1um swept source OCT and ODT system," **Optics Express**, 19, 11880–11889 (2011)
14. **Gangjun Liu**, Lidek Chou, Wangcun Jia, Wenjuan Qi, Bernard Choi, and Zhongping Chen\*, "Intensity-based modified Doppler variance algorithm: application to phase instable and phase stable optical coherence tomography systems," **Optics Express**, 19, 11429–11440 (2011).
15. **Gangjun Liu** and Zhongping Chen\*, "Fiber-based combined optical coherence and multiphoton endomicroscopy," **Journal of Biomedical Optics**, 16, 036010 (2011)
16. **Gangjun Liu**, Wenjuan Qi, Lingfeng Yu, and Zhongping Chen\*, "Real-time Bulk-motion-correction free Doppler variance optical coherence tomography for choroidal capillary vasculature imaging," **Optics Express**, 19, 3657-3666 (2011) .
17. Sang-Won Lee, Andrew E. Heidary, David Yoon, David Mukai, Tirunelveli Ramalingam, Sari Mahon, Jiechen Yin, Joseph Jing, **Gangjun Liu**, Zhongping Chen, and Matthew Brenner\*, "Quantification of airway thickness changes in smoke-inhalation injury using in-vivo 3-D endoscopic frequency-domain optical coherence tomography", **Biomedical Optics Express**, 2(2), pp. 243-254 (2011).
18. **Gangjun Liu\***, Khanh Kieu, Frank W. Wise, and Zhongping Chen\*, "Multiphoton microscopy system with a compact fiber-based femtosecond-pulse laser and handheld probe", **Journal of Biophotonics**, 4(1-2), 34-39 (2011) DOI 10.1002/jbio.201000049.
19. Lingfeng Yu, Elaine Nguyen, **Gangjun Liu**, Bernard Choi, and Zhongping Chen, "Spectral Doppler optical coherence tomography imaging of localized ischemic stroke in a mouse model", **Journal of Biomedical Optics** 15(6), 066006 (2010).
20. Mihaela Balu<sup>^</sup>, **Gangjun Liu**<sup>^</sup>, Zhongping Chen\*, Bruce J. Tromberg, and Eric O. Potma\*, "Fiber delivered probe for efficient CARS imaging of tissues," **Optics Express**, 18(3), 2380-2388 (2010)
21. Tuqiang Xie\*, **Gangjun Liu**, Kelly Kreuter, Sari Mahon, Henri Colt, David Mukai, George M. Peavy, Zhongping Chen, and Matthew Brenner, "In vivo three-dimensional

- imaging of normal tissue and tumors in the rabbit pleural cavity using endoscopic swept source optical coherence tomography with thoracoscopic guidance”, *Journal of Biomedical Optics*, 14(6), 064045 (2009).
22. Jiechen Yin, **Gangjun Liu**, Jun Zhang, Lingfeng Yu, Sari Mahon, David Mukai, Matthew Brenner, and Zhongping Chen\*, “In vivo early detection of smoke-induced airway injury using three-dimensional swept-source optical coherence tomography,” *Journal of Biomedical Optics*, 14, 060503 (2009).
23. Lingfeng Yu, **Gangjun Liu**, Marc Rubinstein, Arya Saidi, Brian J. F. Wong, and Zhongping Chen, “Office-based dynamic imaging of vocal cords in awake patients with swept-source optical coherence tomography,” *Journal of Biomedical Optics*, 14, 064020 (2009).
24. **Gangjun Liu**, Jun Zhang, Lingfeng Yu, Tuqiang Xie, and Zhongping Chen, “Real-time polarization-sensitive optical coherence tomography data processing with parallel computing,” *Applied Optics*, 48(32): pp6365-6370 (2009). Also in Virtual Journal for Biomedical Optics, 4(13), 6365 (2009)
25. **Gangjun Liu**, Tuqiang Xie, Ivan V. Tomov, Jianping Su, Lingfeng Yu, Jun Zhang, Bruce J. Tromberg, and Zhongping Chen, “Rotational multiphoton endoscopy with a 1um fiber laser system,” *Optics Letters*. 34(15):pp2249-51 (2009). Also in Virtual Journal for Biomedical Optics, 4(10), 2249 (2009).
26. Lingfeng Yu, Samarendra Mohanty, **Gangjun Liu**, Suzanne Genc, Zhongping Chen, and Michael W. Berns, “Quantitative phase evaluation of dynamic changes on cell membrane during laser microsurgery,” *Journal of Biomedical Optics*, 13, 050508 (2008).
27. **Gangjun Liu**, Bin Ming Liang, Qu Li and Guo Liang Jin, “Beam propagation in nonlinear multimode interference waveguide,” *Journal of Optics A: Pure and Applied Optics*, 7(9), pp. 457-462 (2005).
28. Binming Liang, Qu Li, **Gangjun Liu** and Guoliang Jin, “Nonlinear directional coupler with variable coupling coefficient and variable nonlinear refractive index coefficient,” *Optics Communications*, (4-6), pp447-451(2005).
29. Xiao Z. Xu, Qu Li, **Gang J. Liu**, Guo L. Jin and Chen G. Wang, “Effective matching in a nonlinear directional coupler with waveguide mismatching and non-uniform nonlinearity,” *Applied Optics*, 44(2), pp. 224-228(2005).
30. Jinlong Wu, Qu Li, Guo Liang Jin, Xianzou Liu, and **Gangjun Liu**, “Switching Characteristics of Three-Core Nonlinear Directional Couplers with Variable Coupling Coefficient,” *ACTA OPTICA SINICA* 25(1), pp11-14(2005).
31. Chengao Wang, Qu Li, **Gangjun Liu**, Guoliang Jin, and Xiaozhen Xu, “The calculation of switching power of symmetric and asymmetric nonlinear directional couplers with variable coupling coefficient,” *IEEE Photonics Technology Letters*, 16(10), pp.2248-2250(2004).
32. **Gang Jun Liu**, Bin Min Liang, Qu Li, and Guo Liang Jin. “Switching characteristics of variable coupling coefficient nonlinear directional coupler,” *Journal of Lightwave Technology*, 22(6), pp.1591-1597 (2004).
33. Jinlong Wu, Qu Li, Xianzhou Liu, **Gangjun Liu** and Guoliang Jin, “Mismatched nonlinear directional coupler with Gaussian type coupling coefficient,” *Optics Communications*, 236(4-6), pp.441-445(2004).
34. **Gang Jun Liu**, Qu Li and Guo Liang Jin, “Transfer matrix method analysis of apodized grating couplers,” *Optics Communications*, 235(4-6), pp 319-324 (2004)
35. Xianzou Liu, Jinlong Wu, **Gangjun Liu**, Qu Li, and Guoliang Jin, “Analysis of the Switching Characteristics of Complex Varying Coupling Coefficient Nonlinear Directional Coupler,” *ACTA OPTICA SINICA* 24(11), pp:1473-1476(2004).
36. Xianzou Liu, Jinlong Wu, **Gangjun Liu**, Qu Li, and Guoliang Jin, “A Novel All-Optical Switch,” *ACTA OPTICA SINICA* 24(10), pp:1320-1323 (2004) .
37. B. M. Liang, **G. J. Liu**, Q. Li, and G. L. Jin, “Coupled mode analysis of the nonlinear switching in the couplers with variable coupling coefficient,” *Optics Communications*, 223(1-3), pp.195-200(2003) .
38. **Gang Jun Liu**, Bin Min Liang, Qu Li, and Guo Liang Jin. “Three-core nonlinear directional coupler with variable coupling coefficient,” *Optical Engineering*, 42(10), pp.2930-1935(2003)
39. **Gang Jun Liu**, Jun Liu, Bin Ming Liang, Qu Li and Guo Liang Jin. “Nonlinear optical

switching matrix,” *Optics Letters*, 28(15), pp.1347-1349 (2003).

40. **Gang Jun Liu**, Bin Min Liang, Qu Li, and Guo Liang Jin. “Variable coupling coefficient nonlinear directional couplers with self-focusing and self-defocusing nonlinearity,” *Applied Optics*, 42(21), pp.4315-4319 (2003).

41. **Gang Jun Liu**, Bin Min Liang, Qu Li, and Guo Liang Jin. “Multiple coupling length nonlinear directional couplers with variable coupling coefficient,” *Optics Communications*, 218(1-3), pp.113-117(2003).

42. **Gang Jun Liu**, Bin Min Liang, Guo Liang Jin, and Qu Li. “Arc-shaped waveguide switch based on the third-order nonlinear effect,” *Applied Optics*, 41(24), pp.5022-5024 (2002).

43. **Liu Gangjun**, Jin Guoliang, Liu Jun, Gao Sihai, and Bai Yuqiang, “Arc-shape All-Optical Switch Based on Nonideal Kerr Medium,” *Journal of Optoelectronics•Laser*12(11), pp.1136-1139 (2001)

44. GAO Si-hai, JINGuo-liang, LIU Jun, **LIU Gang-jun**, and LIANG Bin-ming, “Optimizing Design for Arc All-Optical Waveguide Switch,” *Opto-Electronic Engineering*, 28(1), pp. 53-57 (2001)

45. BAI Yu-qiang, JIN Guo-liang, GAO Si-hai, **LIU Gang-jun**, and LIU Jun, “All-optical Switching Arrays Based on Optical Self-routing,” *Journal of Optoelectronics•Laser* 12(10), pp1000-1007,(2001)

46. LIANG Bin-ming, JIN Guo-liang, SONG Yuan, **LIU Gang-jun**, and BAI Yu-qiang, “Optical Integrated Rapidly Tunable Filter,” *Journal of Optoelectronics•Laser*, 12(8), pp827-830, (2001)

47. Gao Sihai, Jin Guoliang, Sun Yi, Liang Binming, **Liu Gangjun**, "Numerical analysis of high-frequency property of travelling-wave waveguide electro-optic modulation," *Journal of Zhengzhou University*, 33(1), 66-71( 2001)

### Conference Presentations

“Miniature OCT endoscopic probe for in vivo human vocal folds imaging”, in Optical Imaging, Therapeutics, and Advanced Technology in Head and Neck Surgery and otolaryngology, Photonics West 2012, San Francisco, Jan 2012.

“Intensity-based modified Doppler variance algorithm dedicated for phase instable optical coherence tomography systems”, Optical Coherence Tomography and Coherence Domain Optical Methods in Biomedicine, Photonics West 2012, San Francisco, CA., Jan. 2012

“Fiber-based combined OCM/MPM system” in New Frontiers and Grand Challenges in Laser-Based Biological Microscopy, Telluride Intermediate School ,Telluride, CO., Aug. 2011.

“Fiber-based combined optical coherence and multiphoton microscopy,” Multimodal Biomedical Imaging, Photonics West 2011. San Francisco, CA., Jan. 2011

“Fiber-based microendoscopic multiphoton imaging,” Advanced Technology and Instrumentation in Otolaryngology, Photonics West 2011, San Francisco, CA., Jan. 2011

“Optimized Doppler optical coherence tomography for choroidal capillary vasculature imaging,” Optical Coherence Tomography and Coherence Domain Optical Methods in Biomedicine, Photonics West 2011. San Francisco, CA., Jan. 2011

“Fiber-based multiphoton system”, Multiphoton Microscopy in the Biomedical Sciences, Photonics West 2010. San Francisco, CA., Jan. 2010

“3D in vivo swept source endoscopic OCT based on rigid GRIN lens rod probe”, Optical Coherence Tomography and Coherence Domain Optical Methods in Biomedicine , Photonics West 2009. San Jose, CA., Jan. 2009

### Conference proceedings

1. **Gangjun Liu**, Yan Li, Yali Jia, David Huang, “Brownian Motion Imaging With Optical Coherence Tomography and Optical Coherence Tomography Angiography”, ARVO/ISIE 2014.

2. Ou Tan, **Gangjun Liu**, Yali Jia, David Huang, “Total Retinal Blood Flow Measurement with 70k Hz Spectral Domain OCT”. ARVO/ISIE 2014.

3. Shanshan Liang, Arya Saidi, Joe Jing, **Gangjun Liu**, Jiechen Yin, Jagat Narula and Zhongping Chen, "Combining OCT and a fluorescence intensity imaging method for atherosclerosis detection", Proc. SPIE 8207, 82073Y (2012).

4. **Gangjun Liu**, Wangcun Jia, Danny Chou, Wenjuan Qi, Bernard Choi and Zhongping Chen, "Intensity-based modified Doppler variance algorithm dedicated for phase instable optical coherence tomography systems", Proc. SPIE 8213, 821315 (2012).

5. **Gangjun Liu** and Zhongping Chen, "Fiber-based combined optical coherence and multiphoton microscopy," Proc. SPIE 7892, 78920A (Photonic West 2011) (Oral presentation).
6. **Gangjun Liu**; Wenjuan Qi; Lingfeng Yu; Zhongping Chen, "Optimized doppler optical coherence tomography for choroidal capillary vasculature imaging," Proc. SPIE 7889, 78890J (Photonic West 2011); doi:10.1117/12.876066.
7. Pinghe Wang; Jun Zhang; **Gangjun Liu**; Zhongping Chen, "High speed swept source based on polygon-scanner filter and Fox-Smith cavity," Proc. SPIE 7889, 78892Q (Photonic West 2011); doi:10.1117/12.875705.
8. Sucbei Moon; **Gangjun Liu**; Zhongping Chen, "Multiphoton endoscopy based on a mode-filtered single-mode fiber," Proc. SPIE 7903, 79032P (Photonic West 2011); doi:10.1117/12.875747.
9. Wenjuan Qi; **Gangjun Liu**; Zhongping Chen, "In-vivo three-dimensional Doppler variance imaging for tumor angiogenesis on chorioallantoic membrane," Proc. SPIE 7898, 78980O (Photonic West 2011); doi:10.1117/12.875186.
10. Balu, M., **Liu, G.**, Chen, Z., et al., "Scheme for efficient fiber-based CARS probe," Proceedings of SPIE Vol. 7569, 75693A (Photonic West 2010).
11. **Liu, G.**, Kieu, K., Wise, F. W., et al., "Fiber-based multiphoton system," Proceedings of SPIE Vol. 7569, 75692J (Photonic West 2010).
12. **Liu, G.**, Kieu, K., Wise, F. W., Chen, Z., "Fiber Laser and Handheld Probe Based Multiphoton Microscope," Biomedical Optics and 3-D Imaging: OSA Optics and Photonics Congress. 2010.
13. Yin, J., **Liu, G.**, Zhang, J., et al., "In vivo early detection of smoke-induced airway injury using 3-dimensional swept source optical coherence tomography," Proceedings of SPIE Vol. 7554, 755408 (Photonic West 2010) .
14. Zhang, J., **Liu, G.**, Chen, Z., "Ultra broad band Fourier domain mode locked swept source based on dual SOAs and WDM couplers," Proceedings of SPIE Vol. 7554, 75541I (Photonic West 2010).
15. Yu, L., Nguyen, E., **Liu, G.**, et al., "Optical Doppler tomography and spectral Doppler imaging of localized ischemic stroke in a mouse model," Proceedings of SPIE Vol. 7554, 75542E (Photonic West 2010).
16. Lingfeng Yu, **Gangjun Liu**, Elaine Nguyen, Bernard Choi and Zhongping Chen, "Functional Doppler optical coherence tomography for cortical blood flow imaging," Proc. SPIE 7548, 75483Q (Photonic West 2010).
17. **Liu, G.**, Zhang, J., Yu, L., et al., "Adaptive filtering of optical coherent tomography fringe data with ensemble empirical mode decomposition," Proceedings of SPIE Vol. 7554, 75542U (Photonic West 2010).
18. **Liu, G.**, Kieu, K., Wise, F. W., Chen, Z., "Fiber-based microendoscopic multiphoton imaging," Proceedings of SPIE Vol. 7548, 754829 (Photonic West 2010).
19. **G. Liu**, Z. Chen, K. Kieu, and F. W. Wise, "Fiber Based Multiphoton Microscope Using a Fiber Femtosecond Laser and MEMS Scanning Probe," in Nonlinear Optics: Materials, Fundamentals and Applications, OSA Technical Digest (CD) (Optical Society of America, 2009), paper PDNFB8 (post deadline paper).
20. Yin, Jiechen, **Liu, Gangjun**, Zhang, Jun, Yu, Lingfeng, Ahn, Yeh-Chan, Chen, Zhongping, Mahon, Sari, Brenner, Matthew, "In vivo detection of smoke inhalation-induced airway injury using 3-dimensional swept source optical coherence tomography," Chest 2009 136: 83S-b.
21. Yu, L., Mohanty, S., **Liu, G.**, et al., "Quantitative phase evaluation of dynamic changes on the cell membrane during laser microsurgery," Proceedings of SPIE Vol. 7182, 718210 (Photonic West 2009).
22. **Liu, G.**, Xie, T., Yu, L., et al., "Rotational second harmonic generation endoscopy with 1 $\mu$ m fiber laser system," Proceedings of SPIE Vol. 7172, 71720O (Photonic West 2009).
23. **G. Liu**, T. Xie, J. Zhang, G. M. Peavy, M. Brenner, and Z. Chen, "3D in vivo swept source endoscopic OCT based on rigid GRIN lens rod probe," Proceedings of SPIE Vol. 7168, 716812 (Photonic West 2009)
24. Yu, L., **Liu, G.**, Guo, S., et al., "Office-based laryngeal imaging in awake patients with swept-source optical coherence tomography," Proceedings of SPIE Vol. 7168, 71682A (Photonic West 2009).
25. Yu, L., **Liu, G.**, Rubinstein, M., et al., "In vivo office-based dynamic imaging of vocal

cords in awake patients with swept-source optical coherence tomography,” Proceedings of SPIE Vol. 7161, 716126 (Photonic West 2009).

26. Bin Min Liang, **Gang Jun Liu**, Yuan Song, Guo Liang Jin, Qu Li, “Optical waveguide rapidly tunable filter”, Proc. SPIE Vol. 4904, 314-319 (APOC 2002).

### Book chapters

1. **Gangjun Liu**, Marc Rubinstein, Brian Wong and Zhongping Chen, “Vocal folds vibration imaging with functional optical coherence tomography,” in Normal & Abnormal Vocal Folds Mechanics, K. Izdebski, Y.Yan, R.R.Ward, B. Wong eds (in press).
2. **Gangjun Liu** and Zhongping Chen, “Intravital endomicroscopy,” in Understanding Biophotonics: Fundamentals, Advances and Applications, Kevin K. Tsia ed. ( Pan Stanford Publishing, Feb 28, 2015).
3. Zhongping Chen and **Gangjun Liu**, “Optical Doppler tomography,” in Handbook of Coherent Domain Optical Methods (2<sup>nd</sup> edition), Valery V. Tuchin ed,( Springer, 2013)
4. **Gangjun Liu** and Zhongping Chen, “Optical coherence tomography for brain imaging,” in Optical Methods and Instrumentation in Brain Imaging and Therapy, Steen J. Madsen ed. (Springer, 2013)
5. **Gangjun Liu**, Mihaela Balu, Zhongping Chen, and Eric O. Potma, “Miniature coherent Raman probes for *in vivo* biomedical imaging,” in Coherent Raman Scattering Microscopy, Ji-Xin Cheng and Xiaoliang Sunney Xie eds. (CRC Press, November 02, 2012).
6. **Gangjun Liu** and Zhongping Chen, “Phase-resolved optical Doppler tomography,” in Selected Topics in Optical Coherence Tomography, **Gangjun Liu** ed. (InTech publisher 2012).

### US patents

1. **Gangjun Liu**, David Huang, “Post-processing reduction of fixed pattern artifacts and trigger jitter in swept-source optical coherence tomography”, provisional patent, filed Dec 2014.
2. David Huang, Yali Jia, **Gangjun Liu**, Andrew Y. Gordon, Ashwath Jayagopal, “Split-Spectrum Signal Analysis to Detect Gold Nanorod Spectral Reflectance Contrast Agent for Optical Coherence Tomography”, provisional patent, filed Jul 2014..
3. Zhongping Chen, **Gangjun Liu**, Jiawen Li, Lisa X. Xu, Xubin Wei, Aili Zhang, “An integrated diagnosis and therapy catheter system for the intraoperativeoperative therapeutic guidance in diagnosis and treatment of vascular diseases and tumor”, provisional patent filed (UC1.PAU.229.0).
4. Zhongping Chen, **Gangjun Liu**, Mihaela Balu, Bruce J. Tromberg, and Eric O. Potma, “System and Method for Efficient Coherence Anti-Stokes Raman Scattering Endoscopic and Intravascular Imaging and Multimodal Imaging,” US20110282166.
5. Zhongping Chen, **Gangjun Liu**, “System and method for capturing the vital vascular fingerprint”, US20140241596.

### Teaching experiences

Guest lecturer, April 2012, “Optical Coherence Tomography” , University of California, Irvine.

Guest lecturer, May 2010, “Advanced Engineering Mathematics”, University of California, Irvine.

Lecturer, Spring 2004, “University Physics Experiment”, Shanghai Jiao Tong University.

Teaching assistant, Fall 2000, “Integrated Optics”, Shanghai Jiao Tong University.

Teaching assistant, Spring 2001-Fall 2002, “University Physics”, Shanghai Jiao Tong University.