

Lei Xi, PhD

PERSONAL INFORMATION

Address: RM: S714, College of Engineering Building
Department of Biomedical Engineering
Southern University of Science and Technology
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EDUCATION

2010.08-2012.12 Doctor of Philosophy
Department of Biomedical Engineering
University of Florida, United State

2008.09-2010.07 Master of Science
Department of Biomedical Engineering
University of Florida, United State

2003.09-2007.06 Bachelor of Science
College of Optoelectronics Science and Engineering
Huazhong University of Science and Technology, Wuhan, China

POSITIONS

2018.02- Professor
Department of Biomedical Engineering
Southern University of Science and Technology

2014.11-2018.01 Professor
School of Physical Electronics
University of Electronic Science and Technology of China

2013.01-2014.10 Postdoctoral Associate
Department of Biomedical Engineering
University of Florida, United State

2007.07-2008.06 Research Assistant
Britton Chance Center for Biomedical Photonics
Wuhan National Laboratory for Optoelectronics
Huazhong University of Science and Technology, Wuhan, China

SERVICES AND MEMBERSHIPS

- ✧ Editorial Board, Journal of Biophotonics
- ✧ Associate Editor, Journal of Medical Imaging, SPIE
- ✧ International program committee member, 4th and 5th International Conference on Bioimaging, Portugal
- ✧ Committee member, Panel of Biophotonics, The Chinese Optical Society
- ✧ Committee member, Panel of Biophotonics, The Chinese Society of Biomedical Engineering
- ✧ Committee member, Panel of Angiography, The China Medicinal Biotech Association
- ✧ Committee member, Panel of Ultrasonic Equipment, The China Association of Medical Equipment
- ✧ Senior member of the Chinese Society of Biomedical Engineering
- ✧ Senior member of the Chinese Society of Optics
- ✧ Member of SPIE and OSA
- ✧ **Referees:** Nature Materials, Nanomedicine: NBM, Optics Letters, Optics Express, Applied Optics, Biomedical Optics Express, Journal of Biophotonics, Journal of X-ray Science and Technology, Journal of Innovative Optical Health Sciences, Journal of Biomedical Optics, Materials Today, Frontiers in human Neuroscience, Medical Physics, Optical Engineering

HONORS AND AWARDS

Outstanding Young Scholars of National Science Foundation of China, 2020

Academic and Technical Leaders in Sichuan Province, 2018

Shenzhen Local Leader Talent, 2018

100 Talents Plan at the University of Electrical Science and Technology of China, 2017

Hi-Tech Talent at Chengdu, 2016

Outstanding Research Achievement at the University of Florida, 2012

EXTERNAL GRANTS

Summary: **11** external grants (4 NSFC grants) and **¥14.98 Million (~ \$ 2.27 Million)** in total.

2018– Present, at the Southern University of Science and Technology, 7 active grants. **5 as PI** and 2 as Co-PI. **2 national grants** from NSFC. Approximately **¥13.2 Million (~ \$ 2 Million)** in total.

2015–2018, at the University of Electrical Science and Technology of China, 5 completed grants. **5 as PI. 2 national grants** from NSFC. Approximately **¥1.78 Million (~ \$ 0.27 Million)** in total.

Currently active grants:

1. Funding source: Key program by Department of Education at Guangdong Province, 2022.1-2023.12, **PI**

Title: Wearable photoacoustic detection of CTC

Amount: ¥0.4 Million (~\$ 61,538)

2. Funding source: Outstanding Young Scholars by National Science Foundation of China, 2021.1-2023.12, **PI**

Title: Multimodality photoacoustic imaging and its applications

Amount: ¥1.2 Million (~ \$ 182,000)

Received at SUSTech

3. Funding source: General Program by National Science Foundation of China, 2018.1-2021.12, **PI**

Title: Wearable functional photoacoustic brain imaging

Amount: ¥0.85 Million (~ \$ 129,000)

Received at SUSTech

4. Funding source: Key Program by Shenzhen Science and Technology Innovation Committee, 2020.09-2023.08, **PI**

Title: Ring-shaped full-view photoacoustic brain imaging

Amount: ¥2.0 Million (~ \$ 303,000)

Received at SUSTech

5. Funding source: Shenzhen Bay Laboratory, 2020.11-2023.10, **PI**

Title: Multimodality oral imaging based on optical coherent detection

Amount: ¥2.0 Million (~ \$ 303,000)

Received at SUSTech

6. Funding source: Department of science and technology of Guangdong Province, 2020-2025, **Co-PI and Core Member**

Title: Development of nano-theranostic medical device for liver cancer

Amount (~ ¥10 Million in total): ¥1.75 Million (~ \$ 265,000)

Received at SUSTech

7. Funding source: Shenzhen Science and Technology Innovation Committee, 2020-2025, **Co-PI and Core Member**

Title: New nano strategies for anti-MDROs

Amount (~ ¥20 Million in total): ¥5.0 Million (~ \$ 758,000)

Received at SUSTech

Completed grants:

1. Funding source: General Program by National Science Foundation of China, 2016.1-2019.12, **PI**

Title: Dual modality imaging system for early diagnosis of finger joint osteoarthritis

Amount: ¥0.68 Million (~ \$ 103,000)

Received at UESTC

2. Funding source: National Science Foundation of China, 2016.1-2017.12, **PI**

Title: Development of four-modality endoscopic system for the detection of prostate cancer by using MEMS mirror

Amount: ¥0.2 Million (~ \$ 30,000)

Received at UESTC

3. Funding source: International Collaboration program by Department of Science and Technology of Sichuan Province, 2016.1-2017.12, **PI**

Title: Optical image-guided surgery for breast cancer

Amount: ¥0.3 Million (~ \$ 46,000)

Received at UESTC

4. Funding source: Key Program for Returned Scholars by Sichuan Province, 2017.5-2018.5, **PI**

Title: Photoacoustic and optical imaging platform for detecting early-stage arthritis

Amount: ¥0.1 Million (~ \$ 15,200)

Received at UESTC

5. Funding source: Chengdu Hi-Tech Industrial Development Zone, 2016.9-2019.9, **PI**

Title: Hi-Tech Talents Plan

Amount: ¥0.5 Million (~ \$ 76,000)

Received at UESTC

PUBLICATIONS (JOURNAL) (*Corresponding author, #equal contributors)

At SUSTech

2022

1. Zhan Pang[#], Yike Wang[#], Wei Qin, Weizhi Qi*, and **Lei Xi***, "Handheld volumetric photoacoustic/ultrasound imaging using internal scanning mechanism" **Optics Letters**, In press.
2. Xinrui Gong[#], Tian Jin[#], Yongchao Wang, Ruoxi Zhang, Weizhi Qi, and **Lei Xi***, "Photoacoustic microscopy visualizes glioma-induced disruptions of cortical microvascular structure and function", **Journal of Neural Engineering**, 19 026027, 2022.
3. Aihui Sun[#], Yaoyao Ji[#], Yaxi Li, Wenhui Xie, Zhihe Liu, Tingting Li, Tian Jin, Weizhi Qi, Kai Li, Changfeng Wu, **Lei Xi***, "Multi-color Photoacoustic volumetric imaging of subcellular structures" **ACS Nano**, <https://doi.org/10.1021/acsnano.1c11103>.
4. Yongchao Wang, Ruoxi Zhang, Qian Chen, Heng Guo, Xiao Liang, Tingting Li, Weizhi Qi, **Lei Xi*** "Visualization of blood-brain barrier disruption with dual-wavelength high-resolution photoacoustic

microscopy", **Biomedical Optics Express**, 13, 1537-1550, 2022.

2021

5. Heng Guo[#], Qian Chen[#], Wei Qin, Weizhi Qi, **Lei Xi***, "Detachable head-mounted photoacoustic microscope in freely moving mice", **Optics Letters**, 46, 6055-6058, 2021. (Spotlight of OSA, Top download@ Optics Letters, Highlighted by OSA news and OPN).
6. Tian Jin[#], Weizhi Qi[#], Xiao Liang, Heng Guo, Quanying Liu*, **Lei Xi***, "Photoacoustic imaging of brain functions: wide field-of-view functional imaging with high spatiotemporal resolution", **Laser & Photonics Reviews**, <https://doi.org/10.1002/lpor.202100304>.
7. Aihui Sun, Tingting Li, Tian Jin, Yaxi Li, Kai Li, Chaolong Song, **Lei Xi***, "Acoustic Standing Wave Aided Multiparametric Photoacoustic Imaging Flow Cytometry", **Analytical Chemistry**, 93, 14820-14827, 2021.
8. Tingting Li[#], Heng Guo[#], Ye Liu[#], Weizhi Qi, Changfeng Wu, **Lei Xi***, "All-in-One Photoacoustic Theranostics Using Multi-Functional Nanoparticles", **Advanced Functional Materials**, doi.org/10.1002/adfm.202107624, 2021.
9. Qian Chen, Tian Jin, Weizhi Qi and **Lei Xi***, "Dual-model wearable photoacoustic microscopy and electroencephalograph: study of neurovascular coupling in anesthetized and freely moving rats", **Biomedical Optics Express**, 12, 6614-6628, 2021.
10. Zhan Pang[#], Yike Wang[#], Yongchao Wang, Zezou Sun, Weizhi Qi, and **Lei Xi***, "Multi-modality photoacoustic /ultrasound imaging based on a commercial ultrasound platform", **Optics Letters**, 46, 4382-4385, 2021.
11. Weizhi Qi[#], Tingting Li[#], Chen Zhang[#], Fei Liu, Jun Wang, Dandan Chen, Xiaofeng Fang, Changfeng Wu, Kai Li, **Lei Xi***, "Light-Controlled Precise Delivery of NIR-Responsive Semiconducting Polymer Nanoparticles with Promoted Vascular Permeability", **Advanced Healthcare Materials**, 10, 2100569, 2021.
12. Wei Qin[#], Qi Gan[#], Lei Yang[#], Yongchao Wang, Weizhi Qi, Bowen Ke*, **Lei Xi***, "High-resolution in vivo imaging of rhesus cerebral cortex with ultrafast portable photoacoustic microscopy", **NeuroImage**, 238, 118260, 2021.
13. Tian Jin, Chen Zhang, Fei Liu, Xingxing Chen, Guangru Liang, Fei Ren, Suzi Liang, Chaolong Song, Jianbing Shi, Weibao Qiu, Xingyu Jiang, Kai Li, **Lei Xi***, "On-Chip multi-color photoacoustic imaging flow cytometry", **Analytical Chemistry**, 93, 8134-8142, 2021.
14. Qian Chen[#], Wei Qin[#], Weizhi Qi, **Lei Xi***, "Progress of clinical translation of handheld and semi-handheld photoacoustic imaging", **Photoacoustics**, 22, 100264, 2021.
15. Weizhi Qi, Xiao Liang, Yaoyao Ji, Chengbo Liu, **Lei Xi***, "Optical resolution photoacoustic computed tomography" **Optics Letters**, 46, 372-375, 2021

16. Jun Wang[#], Tingting Li[#], Jen-shyang Ni[#], Heng Guo, Tianyi Kang, Zeshun Li, Menglei Zha, Songbo Lu, Chen Zhang, Weizhi Qi, **Lei Xi**^{*}, Kai Li^{*}, "Photoacoustic Force - Guided Precise and Fast Delivery of Nanomedicine with Boosted Therapeutic Efficacy", **Advanced Science**, 8, 2021.
17. Zeshun Li[#], Tingting Li[#], Chen Zhang[#], Jen-shyang Ni, Yaoyao Ji, Aihui Sun, Dinglu Peng, Weijun Wu, **Lei Xi**^{*}, Kai Li^{*}, "A multispectral Photoacoustic Tracking Strategy for Wide-field and Real-time Monitoring of Macrophages in Inflammation", **Analytical Chemistry**, 93, 8467-8475, 2021.
18. Yingdong Luo, Jinwu Yang, Xinqi Zheng, Jianjun Wang, Xin Tu, Zhizhao Che, Jiakun Fang, **Lei Xi**, Nam-Trung Nguyen and Chaolong Song, "Three-dimensional visualization and analysis of flowing droplets in microchannels using real-time quantitative phase microscopy", **Lab Chip**, 07, 75-82, 2021.
19. Nan Yang[#], Heng Guo[#], Changyu Cao, Xiaorui Wang, Xuejiao Song, Wenjun Wang, Dongliang Yang^{*}, **Lei Xi**, Xiaozhou Mou^{*}, Xiaochen Dong^{*}, "Infection Microenvironment-Activated Nanoparticles for NIR-II Photoacoustic Imaging-guided Photothermal/Chemodynamic Synergistic Anti-infective Therapy", **Biomaterials**, 275, 120918, 2021.
20. Haifei Wen, Zhijun Zhang^{*}, Miaomiao Kang, Haoxuan Li, Wenhan Xu, Heng Guo, Youmei Li, Yonghong Tan, Ziyao Wen, Qian Wu, Jiachang Huang, **Lei Xi**, Kai Li, Lei Wang, Dong Wang^{*}, Ben Zhong Tang^{*}, "One-for-all phototheranostics: Single component AIE dots as multi-modality theranostic agent for fluorescence-photoacoustic imaging-guided synergistic cancer therapy", **Biomaterials**, 274, 120892, 2021.
21. Tianyi Kang[#], Jen-Shyang Ni[#], Tingting Li, Jun Wang, Zeshun Li, Yaxi Li, Menglei Zha, Chen Zhang, Xue Wu, Heng Guo, **Lei Xi**, Kai Li^{*}, "Efficient and Precise Delivery of MicroRNA by Photoacoustic Force Generated from Semiconducting Polymer-Based Nanocarriers", **Biomaterials**, 275, 120907, 2021.

2020

22. Yongchao Wang, Guangru Liang, Fei Liu, Qian Chen, **Lei Xi**^{*}, "A long-term cranial window for high-resolution photoacoustic imaging" **IEEE Transactions on Biomedical Engineering**, 10.1109/TBME.2020.3012663, 2020.
23. Heng Guo, Ying Li, Weizhi Qi, **Lei Xi**^{*} "Photoacoustic endoscopy: a progress review", **Journal of Biophotonics**, 10.1002/jbio.202000217, 2020.
24. Aihui Sun, Heng Guo, Qi Gan, Lei Yang, Qiang Liu, **Lei Xi**^{*}, "Evaluation of visible NIR-I and NIR-II light penetration for photoacoustic imaging in rat organs", **Optics Express**, 28(6), 9002-9013, 2020.
25. Xiao Liang, Heng Guo, Qiang Liu, Yubin Gong^{*}, **Lei Xi**^{*}, "Thermoacoustic Endoscopy" **Applied Physics Letters**, 116, 013702, 2020.

26. Weizhi Qi, Lei Yao*, Yunchao Jiang, Na Huang, Heng Guo, Jian Rong, HuiFeng, Wanneng Yang, **Lei Xi***, "Quantitative photoacoustic imaging of chlorophyll using a GPU-accelerated finite element method", **Communications in Computational Physics**, 28(2), 679-690, 2020.
27. Wenhan Xu, Zhijun Zhang, Miaomiao Kang, Heng Guo, Youmei Li, Haifei Wen, Michelle M. S. Lee, Zhaoyu Wang, Ryan T. K. Kwok, Jacky W. Y. Lam, Kai Li, **Lei Xi***, Sijie Chen, Dong Wang*, and Ben Zhong Tang*, "Making the Best Use of Excited-State Energy: Multimodality Theranostic Systems Based on Second Near-Infrared (NIR-II) Aggregation-Induced Emission Luminogens (AIEgens)", **ACS Materials Letters**, 2(8), 1033-1040, 2020.
28. Ye Liu, Jinfeng Liu, Dandan Chen, Xiaosha Wang, Zhe Zhang, Yicheng Yang, Lihui Jiang, Weizhi Qi, Ziyuan Ye, Shuqing He, Quanying Liu, **Lei Xi**, Yingping Zou*, Changfeng Wu*, "Fluorination Chemistry Enhances NIR - II Fluorescence of Polymer Dots for Quantitative Brain Tumor Imaging" **Angew. Chem. Int. Ed.**, 132, 2-11, 2020.
29. Zhijun Zhang, Wenhan Xu, Miaomiao Kang, Haifei Wen, Heng Guo, Pengfei Zhang, **Lei Xi**, Kai Li, Lei Wang, Dong Wang* and Ben Zhong Tang*, "An All-Round Athlete on the Track of Phototheranostics: Subtly Regulating the Balance between Radiative and Nonradiative Decays for Multimodal Imaging-Guided Synergistic Therapy", **Advance Materials**, 2003210, 2020.
30. Yanan Gao, Zhihua Li, Yin Hong, Tingting Li, Xiaoyan Hu, Luyao Sun, Zhengchang Chen, Zijian Chen, Zhiheng Luo, Xin Wang, Jian Kong, Guanglei Li, Hsing-Lin Wang, Hwa Liang Leo, Harry Yu, **Lei Xi**, Qiongyu Guo, "Decellularized liver as a translucent ex vivo model for vascular embolization evaluation" **Biomaterials**, 240, 119855, 2020.

2019

31. Fei Liu#, Tian Jin#, Ruopeng Yan, Tingting Li, Biao Hu, Lei Yao, Tianye Huang, Chaolong Song, **Lei Xi***, "An opto-acousto-fluidic microscopic system with a high spatiotemporal resolution for microfluidic applications" **Optics Express**, 27, 1425-1432, 2019.
32. Wei Qin, Weizhi Qi, **Lei Xi***, "Quantitative Investigation of Vascular Response to Mesenteric Venous Thrombosis using Large-field-of-view Photoacoustic Microscopy" **Journal of Biophotonics**, 12(12), e201900198, 2019.
33. Heng Guo, Qin Wang, Weizhi Qi, Xun Sun, Bowen Ke*, **Lei Xi***"Assessing the development and treatment of rheumatoid arthritis using multi-parametric photoacoustic and ultrasound imaging" **Journal of Biophotonics**,12(11), e201900127, 2019.
34. Qian Chen, Huikai Xie, **Lei Xi*** "Wearable Optical Resolution Photoacoustic Microscopy" **Journal of Biophotonics**, 12(8), e201900066, 2019.
35. Chen Shao, Fan Xiao, Heng Guo, Jiantao Yu, Dong Jin, Changfeng Wu, **Lei Xi***, Lei Lei Tian*"Utilizing polymer micelle to control dye J-aggregation and enhance its theranostic

capability" **iScience**, 22, 229-239, 2019.

36. Gongyuan Liu, Jiawei Zhu, Heng Guo, Aihui Sun, Peng Chen*, **Lei Xi***, Wei Huang, Xuejiao Song*, and Xiaochen Dong* "Mo₂C-Derived Polyoxometalate for NIR-II Photoacoustic Imaging-Guided Chemodynamic/Photothermal Synergistic Therapy" **Angew. Chem. Int. Ed.**, 58(51), 18641-18646, 2019.
37. Haobin Chen, Fang Wang, Mingyi Liu, Mengdan Qian, Xiaoju Men, Chuanfei Yao, **Lei Xi**, Weiping Qin, Guanshi Qin*, Changfeng Wu*, "Near - Infrared Broadband Polymer - Dot Modulator with High Optical Nonlinearity for Ultrafast Pulsed Lasers" **Laser&Photonics Review**, 13(2), 1800326, 2019.

2018

38. Qian Chen#, Heng Guo#, Weizhi Qi, Qi Gan, Lei Yang, Bowen Ke, Xingxing Chen, Tian Jin, **Lei Xi***, "Assessing Hemorrhagic Shock: Feasibility of Using an Ultracompact Photoacoustic Microscope" **Journal of Biophotonics**, 12(4), e201800348, 2018. ***Editor's Pick***
39. Heng Guo, Qian Chen, Weizhi Qi, Xingxing Chen, **Lei Xi***, "In vivo study of rat cortical hemodynamics using a stereotaxic-apparatus-compatible photoacoustic microscope" **Journal of Biophotonics**, 11(9), e201800067, 2018.
40. Wei Qin, Qian Chen, **Lei Xi***, "A handheld microscope integrating photoacoustic microscopy and optical coherence tomography" **Biomedical Optics Express**, 9(5), 2205-2213, 2018.
41. Chaolong Song#, Tian Jin#, Ruopeng Yan, Weizhi Qi, Tianye Huang, Huafeng Ding, Say Hwa Tan, Nam-Trung Nguyen, and **Lei Xi***, "Opto-acousto-fluidics microscopy for three-dimensional label-free detection of droplets and cells in microchannels" **Lab on a Chip**, 18(9), 1292-1297, 2018. ***Selected as Inside Front Cover article.***
42. Qian Chen, Heng Guo, Tian Jin, Weizhi Qi, Huikai Xie, **Lei Xi***, "Ultracompact high-resolution photoacoustic microscopy" **Optics Letters**, 43(7), 1615-1618, 2018. ***Editor's Pick.***
43. Wei Qin#, Tian Jin#, Heng Guo, **Lei Xi***, "Large-field-of-view optical resolution photoacoustic microscopy" **Optics Express**, 26(4), 4271-4278, 2018.
44. Na Huang, Ming He, Haosheng Shi, Yuan Zhao, Man Lu, Xianbing Zou, Lei Yao, Huabei Jiang, **Lei Xi***, "Curved-array-based multispectral photoacoustic imaging of human finger joints", **IEEE Transactions on Biomedical Engineering**, 65(7), 1452-1459, 2018.
45. Weizhi Qi#, Qian Chen#, Heng Guo, Huikai Xie, **Lei Xi***, "Miniaturized optical resolution photoacoustic microscope based on a microelectromechanical system scanning mirror" **Micromachines**, 9(6), 288-294, 2018. *Invited Paper.*

Before SUSTech

2017

46. Wei Qin[#], Weizhi Qi[#], Heng Guo, **Lei Xi***, "In vivo oral imaging with integrated portable photoacoustic microscopy and optical coherence tomography" **Applied Physics Letters**, 111(26), 263704, 2017.
 47. Tian Jin, Heng Guo, Huabei Jiang, Bowen Ke, **Lei Xi***, "Portable optical resolution photoacoustic microscopy (pORPAM) for human oral imaging" **Optics Letters**, 42(21), 4434-4437, 2017.
- Editor's Pick.**
48. Tian Jin, Heng Guo, Lei Yao, Huikai Xie, Huabei Jiang and **Lei Xi***, "Portable optical-resolution photoacoustic microscopy for volumetric imaging of multiscale organisms" **Journal of Biophotonics**, 11(4), e201700250, 2017.
 49. Heng Guo, Chaolong Song, Huikai Xie, **Lei Xi***, "Photoacoustic endomicroscopy (PAEM) based on a MEMS scanning mirror" **Optics Letters**, 42(22), 4615-4618, 2017.
 50. Heng Guo, Weizhi Qi, Ming He, Jian Rong, **Lei Xi***, "Co-registered photoacoustic and ultrasound imaging for tongue cancer detection" **Journal of Innovative Optical Health Science**, 11(3), 1850008, 2017.
 51. **Lei Xi***, Tian Jin, Junli Zhou, Paul Carney, Hubei Jiang*, "Hybrid photoacoustic and electrophysiological recording of neurovascular communications in freely-moving rats" **NeuroImage**, 161, 232-240, 2017.
 52. Shirui Yang[#], Wei Qin[#], Tian Jin, Heng Guo, Na Huang, Ming He, **Lei Xi***, "Design and evaluation of a compound acoustic lens for photoacoustic computed tomography" **Biomedical Optics Express**, 8(5) 2756-2765, 2017.
 53. Qian Chen, Tian Jin, Weizhi Qi, Xianming Mo, **Lei Xi***, "Label-free photoacoustic imaging of the carido-cerebrovascular development in the embryonic zebrafish" **Biomedical Optics Express**, 8(4), 2359-2367, 2017.
 54. Weizhi Qi[#], Tian Jin[#], Jian Rong, Huabei Jiang, **Lei Xi*** "Inverted multiscale optical resolution photoacoustic microscopy" **Journal of Biophotonics**, 10(12), 1580-1585, 2017.

2016

55. Na Huang, Heng Guo, Weizhi Qi, Zhiwei Zhang, Jian Rong, Zhen Yuan, Wei Ge, Huabei Jiang, **Lei Xi*** "Whole-body multispectral photoacoustic imaging of adult zebrafish" **Biomedical Optics Express**, 7(9), 3543-3550, 2016.
56. **Lei Xi***, Huabei Jiang*, "Integrated photoacoustic and diffuse optical tomography system for imaging of human finger joints in vivo" **Journal of Biophotonics**, 9(3), 213-217, 2015.
57. **Lei Xi**, Huabei Jiang, "Image-guided surgery using multimodality strategy and molecular probes" **WIREs Nanomedicine and Nanobiotechnology**, 8 (1), 46-60, 2016.

Before UESTC

2015

58. Xiaoqi Li, Coy D. Heldermon, Lei Yao, **Lei Xi**, Huabei Jiang, "High resolution functional photoacoustic tomography of breast cancer " **Medical Physics**, 42(9), 5321-5328, 2015.
59. **Lei Xi***, Huabei Jiang, "High resolution three-dimensional photoacoustic imaging of human finger joints in vivo" **Applied Physics Letters**, 107(6), 063701, 2015.
60. Xianjin Dai[#], **Lei Xi**[#], Can Duan, Hao Yang, Huikai Xie, Huabei Jiang*, "Miniature probe integrating optical-resolution photoacoustic microscopy, optical coherence tomography, and ultrasound imaging: proof-of-concept" **Optics Letters**, 40(12), 2921-2924, 2015.
61. Jianbo Tang, **Lei Xi**, Junli Zhou, Hua Huang, Tao Zhang, Paul Carney, Huabei Jiang*, "Noninvasive high-speed photoacoustic tomography of cerebral hemodynamics in awake-moving rats" **Journal of Cerebral Blood Flow Metabolism**, 35(8), 1224-1232, 2015.

2014

62. Lei Yao[#], **Lei Xi**[#], Huabei Jiang*, "Photoacoustic computed microscopy" **Scientific Reports**, 4,4960, 2014.
63. **Lei Xi**[#], Chaolong Song[#], Huabei Jiang*, "Confocal photoacoustic microscopy using a single multifunctional lens" **Optics Letters**, 39(11), 3328-3331, 2014.
64. **Lei Xi**, Minati Satpathy, Qing Zhao, Weiping Qian, Lily Yang, Huabei Jiang "HER-2/Neu targeted delivery of a nanoprobe enables dual photoacoustic and fluorescence tomography of ovarian cancer" **Nanomedicine: Nanotechnology, Biology and Medicine**, 10(3), 669-677, 2014.
65. **Lei Xi**, Guangyin Zhou, Ning Gao, Lily Yang, David Gonzalo, Steven Hughes and Huabei Jiang "Photoacoustic and fluorescence image-guided surgery using multifunctional targeted nanoprobe," **Annals of Surgical Oncology** 21, 1602-1609 (2014).
66. **Lei Xi**, Stephen Grobmyer, Guangyin Zhou, Weiping Qian, Lily Yang, Huabei Jiang, "Molecular photoacoustic tomography of breast cancer using receptor targeted magnetic iron oxide as contrast agents" **Journal of Biophotonics**, 7(6), 401-409, 2014. ***Editor's Choice.***
67. Zhen Yuan*, Xiaoqi Li, **Lei Xi**, "Listening to light scattering in turbid media: Quantitative optical scattering imaging using photoacoustic measurements with one-wavelength illumination" **Journal of Optics**, 16(6), 065301, 2014..
68. Zhijun Chen, Qing Ruan, Song Han, **Lei Xi**, Brian Law, Wen G. Jiang, Hubei Jiang, David Ostrov, Jun Cai*, "Discovery of structure-based small molecular inhibitor of α B-crystallin against basal-like/triple negative breast cancer development in vitro and in vivo" **Breast Cancer Research and Treatment**, 145(1), 45-59, 2014.

2013

69. Chaolong Song[#], **Lei Xi**[#], Huabei Jiang*, " Acoustic lens with variable focal length for

photoacoustic microscopy" **Journal of Applied Physics**, 114(19), 194703, 2013.

70. Chaolong Song[#], **Lei Xi**[#], Huabei Jiang*, "Liquid acoustic lens for photoacoustic tomography" **Optics Letters**, 38(15), 2930-2933, 2013.
71. **Lei Xi**, Can Duan, Huikai Xie, Huabei Jiang*, "Miniature probe combining optical-resolution photoacoustic microscopy and optical coherence tomography for in vivo microcirculation study" **Applied Optics**, 52(9), 1928-1931, 2013.
72. Hao Yang, **Lei Xi**, Sean Samuelson, Huikai Xie, Lily Yang, Huabei Jiang*, "Handheld miniature probe integrating diffuse optical tomography with photoacoustic imaging through a MEMS scanning mirror" **Biomedical Optics Express**, 4 (3), 427-432, 2013.
73. Qiang Ruan[#], **Lei Xi**[#], Sanford Boye, William W Hauswirth, Song Han, Zhijuan Chen, Michael E Boulton, Brain K Law, Wen G Jiang, Huabei Jiang*, Jun Cai*, "Development of an anti-angiogenic therapeutic model combining scAAV2-delivered siRNAs and noninvasive photoacoustic imaging of tumor vasculature development" **Cancer Letters**, 332(1), 120-129, 2013.

2012

74. **Lei Xi**[#], Xiaoqi Li[#], Huabei Jiang*, "Variable-thickness multilayered polyvinylidene fluoride transducer with improved sensitivity and bandwidth for photoacoustic imaging" **Applied Physics Letters**, 101(17), 2012.
75. **Lei Xi**, Lei Zhou, Huabei Jiang*, "C-scan photoacoustic microscopy for in vivo imaging of Drosophila pupae" **Applied Physics Letter**, 101(1), 013702, 2012.
76. **Lei Xi**, Stephen R. Grobmyer, Lei Wu, Ruimin Chen, Guangyin Zhou, Luke G. Gutwein, Jingjing Sun, Wenjun Liao, Qifa Zhou, Huikai Xie, Huabei Jiang, "Evaluation of breast tumor margins in vivo with intraoperative photoacoustic imaging" **Optics Express** 20(8), 8726-8731, 2012.
77. **Lei Xi**, Xiaoqi Li, Huabei Jiang "Design and evaluation of a hybrid photoacoustic tomography and diffuse optical tomography system for breast cancer detection," **Medical Physics** 39, 2584 (2012)
78. Bin He, **Lei Xi**, Huikai Xie, Lily Yang, Huabei Jiang*, "Microelectromechanical systems scanning-mirror-based handheld probe for fluorescence molecular tomography" **Applied Optics** 51(20), 4678-4683, 2012.

2011

79. Xiaoqi Li, **Lei Xi**, Ruixin Jiang, Lei Yao, and Huabei Jiang, "Integrated diffuse optical tomography and photoacoustic tomography: phantom validations" **Biomedical Optics Express**, 2(8), 2348-2353, 2011.

2010

80. **Lei Xi**, Jingjing Sun, Yiping Zhu, Lei Wu, Huikai Xie, and Huabei Jiang "Photoacoustic imaging based on MEMS mirror scanning," **Biomedical Optics Express**, 1(5), 1278-1283, 2010.

2008

81. Kun Bi, Xiaochun Xu, **Lei Xi**, Shaoqun Zeng, Qingming Luo, "A DR-WFOI fusion system for the real-time molecular imaging in vivo," **Chinese Optics Letters**, 6(12), 893-895, 2008.

CONFERENCE PROCEEDINGS AND INVITED TALKS

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