课题组介绍

一，导师简介

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工作经历：

2020/10 - 至今　　双聘副教授，珠江医院，南方医科大学

2020/09 - 至今　　副教授，生物医学工程学院，南方医科大学

2016/11 - 2020/09　　讲师，生物医学工程学院，南方医科大学

2016/03 - 2016/09　　博士后研究员，贝克曼激光研究所，美国加州大学欧文分校，导师：Zhongping Chen

教育经历：

2010/09 - 2016/03　　博士，光学工程，现代工程与应用科学学院，南京大学，导师：张旭苹

2014/09 - 2016/03　　联合培养博士，贝克曼激光研究所，美国加州大学欧文分校，导师：Zhongping Chen

2006/09 - 2010/06　　学士，自动化，自动化科学与工程学院，华南理工大学

可在南方医科大学官网找到导师信息：
https://portal.smu.edu.cn/swyxgcxy/info/1021/2773.htm

二，成员介绍

三，招生方向

学术型招生方向		专业型招生方向	
√	医学成像科学	√	生物医学成像与图像处理
□	图像分析与处理	□	肿瘤放射物理
□	肿瘤放射物理	□	生物医学信号检测与仪器设计
□	神经信息	□	生物材料
□	生物材料方向		

对于本科生来说，你将获得申报大学生创新创业计划、启蒙计划、培优计划、毕业设计指导和各类竞赛（如全国大学生生物医学工程创新 设计竞赛、电子设计竞赛、挑战者杯、互联网+等）一贯式培养的机 会。基于此，你将收获各类科研经历的同时，有机会获得各类奖学金。

对于研究生来说，你将利用课题组平台和资源接触和从事前沿研究， 参与系里面内部的学术报告会、课题组文献汇报会。非出差时我会每 周和每个课题组同学单独进行 One-on-One Meetings，讨论课题研 究遇到的问题，确保正确的研究方向。同时，针对研究生开题、中期 考核、毕业论文答辩等环节，我将组织预答辩并提供修改意见，保障 研究生培养质量。此外，课题组鼓励硕士研

究生参加国际会议，培养 国际视野。

如果你对我们课题组感兴趣，请发邮件到邮箱：qili@smu.edu.cn，（邮件的附件包括：①个人简历；②个人成绩单）收到你的邮件材料后，我会及时回复。期待你的加入。

四，科研成果

科研项目：

1. 主持项目

[1] 广东省首批“珠江人才计划”青年拔尖人才，2017GC010282，2017/01-2022/12，已结题，主持.

[2] 国家自然科学基金青年项目，31700857，缺血性脑卒中侧支循环的光学相干成像与定量分析新方法研究，2018/01-2020/12，24 万，已结题，主持.

[3] 中国博士后科学基金面上项目（一等资助），2017M610536，光学相干血管网络显影图像的自动定量分析新方法研究，2017/07 - 2018/09，8 万，已结题，主持.

[4] 广东省自然科学基金博士科研启动项目，2017A030310516，面向缺血性脑卒中模型的功能性 OCT 神经成像与分析新方法研究，2017/01-2019/12，10 万，已结题，主持.

[5] 广东省自然科学基金面上项目，2021A1515012542，多光谱交错稀疏采样光声断层成像的优质图像重建与恢复方法研究，2021/01-2023/12，10 万，在研，主持.

[6] 广东省自然科学基金面上项目，2022A1515011748，呼吸道内窥光学相干断层定量参数成像新方法，2022/01-2024/12，10 万，在研，主持.

[7] 广州市科技计划项目一般项目专题，201804010375，脑代偿性循环的 OCT 定量成像与分析新方法研究，2018/04 - 2021/03，20 万，已结题，主持.

[8] 南方医科大学青年科技人员培育项目（自然科学类），无，光学相干血管网络显影图像的自动定量分析新方法研究，2017/09 - 2019/08，9 万，已结题，主持.

2. 参与项目（部分）

[1] 广东省重点领域研发计划项目，2018B030333001，大孔径小动物介电特性断层成像系统，2019/01-2021/12，7200 万，在研，参加.

[2] 国家自然科学基金青年项目，81801764，基于 Fe 掺杂多元复合金属纳米探针的靶向预定位系统构建及其针对乳腺癌血管生成拟态诊治一体的分子影像学研究，

2019/01-2021/12，21 万，在研，参加.

[3] 国家自然科学基金青年项目，61801205，基于人工稀疏的肝脏动态对比增强磁共振成像新方法研究，2019/01-2021/12，23 万，在研，参加.

论著成果：

1. 期刊论文

2023

[1] Zhijian Zhuang#, Delang Chen#, Zhichao Liang, Shuangyang Zhang, Zhenyang Liu, Wufan Chen, and **Li Qi***. **Automatic 3D reconstruction of an anatomically correct upper airway from endoscopic long range OCT images**, *Biomed. Opt. Express* xx, xx-xx (2023). doi: 10.101

[2] Kaiyi Tang, Shuangyang Zhang, Yang Wang, Xiaoming Zhang, Zhenyang Liu, Zhichao Liang, Huafeng Wang, Lingjian Chen, Wufan Chen*, and **Li Qi***. **Learning Spatially Variant Degradation for Unsupervised Blind Photoacoustic Tomography Image Restoration,** *Photoacoustics.* 31, 100506 (2023). doi: 10.1016/j.pacs.2023.100506.

[3] Kaiyi Tang, Shuangyang Zhang, Zhichao Liang, Yang Wang, Jia Ge, Wufan Chen*, and **Li Qi***. **The Importance of Photoacoustic Tomography Image Post-Processing,** *Encyclopedia*, (2023) https://encyclopedia.pub/entry/46734.

[4] Kaiyi Tang, Shuangyang Zhang, Zhichao Liang, Yang Wang, Jia Ge, Wufan Chen, and **Li Qi***. **Advanced Image Post-Processing Methods for Photoacoustic Tomography: A Review** *Photonics* 10(7): 707. (2023). Doi: 10.3390/photonics10070707

[5] Shuangyang Zhang, Zhichao Liang, Kaiyi Tang, Xipan Li, Xiaoming Zhang, Zongxin Mo, Jian Wu, Shixian Huang, Jiaming Liu, Zhijian Zhuang, **Li Qi***, and Wufan Chen*, **In vivo co-registered hybrid-contrast imaging by successive photoacoustic tomography and magnetic resonance imaging**, *Photoacoustics.* 31, 100506 (2023). doi: 10.1016/j.pacs.2023.100506.

[6] Shuting Zheng, Honglei Hu, Meirong Hou, Kai Zhu, Zede Wu, **Li Qi**, Hui Xia, Guoqiang Liu, Yunyan Ren, Yikai Xu*, Chenggong Yan*, and Bingxia Zhao*, **Proton pump inhibitor-enhanced nanocatalytic ferroptosis induction for stimuli-responsive dual-modal molecular imaging guided cancer radiosensitization**, *Acta Biomater.* (2023). doi: 10.1016/j.actbio.2023.03.011.

[7] Kai Zhu, Zede Wu, Qiuyu Li, Meirong Hou, Honglei Hu, Shuting Zheng, **Li Qi**, Yikai Xu*, Chenggong Yan*, and Bingxia Zhao*, **Immune microenvironment-reshaping Au@Bi2Te3 nanoparticles for spectral computed tomography/photoacoustic imaging-guided**

synergetic photo/radio/immunotherapy. *Nano Res.* 16, 771–781 (2023). doi: 10.1007/s12274-022-4645-3.

[8] Sheng Ye, Huichun Xiao, Jian Chen, Di Zhang, **Li Qi**, Ting Peng, Yanyang Gao, Qianbing Zhang, Jinqing Qu*, Lei Wang, and Ruiyuan Liu, **Copperphosphotungstate Doped Polyanilines Nanorods for GSH-Depletion Enhanced Chemodynamic/NIR-II Photothermal Synergistic Therapy**, *Int. J. Nanomed.* 18, 1245-1257 (2023). doi: 10.2147/IJN.S399026.

2022

[9] Sheng Zhang#, Zhenyang Liu#, Linlin Mao, Jian Wu, Di Zhang, Ruiyuan Liu*, and **Li Qi***, **In Vivo Imaging of Mammalian Embryos by NIR-I PAT and NIR-II OCT using Gold Nanostars as Multifunctional Contrast Agents**, *ACS Appl. Nano Mater.* 5(12), 18365-18375 (2022). doi: 10.1021/acsanm.2c04195.

[10] Shuangyang Zhang#, Jiaming Liu#, Zhichao Liang, Jia Ge, Yanqiu Feng*, Wufan Chen*, and **Li Qi***, **Pixel-Wise Reconstruction of Tissue Absorption Coefficients in Photoacoustic Tomography Using a Non-Segmentation Iterative Method**, *Photoacoustics*, 28, 100390 (2022). doi: 10.1016/j.pacs.2022.100390.

[11] Ruixuan Wang, Shuangyang Zhang, Yuxing Lin, Zhichao Liang, Han Deng, Haoyu Hu, Wen Zhu, Sai Wen, Xipan Li, Jian Wu, **Li Qi***, and Chihua Fang*, **Epithelial Cell Adhesion Molecule- Functionalized Fe3O4@Au Nanoparticles for Coregistered Optoacoustic and Magnetic Resonance Imaging and Photothermal Therapy of Hepatocellular Carcinoma**, *ACS Appl. Nano Mater.* 5, 10213-10224 (2022). doi: 10.1021/acsanm.2c01165.

[12] Shuangyang Zhang, **Li Qi***, Xipan Li, Zhichao Liang, Xiangdong Sun, Jiaming Liu, Lijun Lu, Yanqiu Feng, and Wufan Chen*, **MRI Information-Based Correction and Restoration of Photoacoustic Tomography**, *IEEE Trans. Med. Imaging*, 41(9), 2543-2555 (2022). doi: 10.1109/TMI.2022.3165839.

[13] Meirong Hou, Kai Zhu, Honglei Hu, Shuting Zheng, Zede Wu, Yunyan Ren, Bin Wu, **Li Qi**, Dong Wu, Yikai Xu,* , Chenggong Yan,* and Bingxia Zhao*,**Rapid synthesis of 'yolk-shell'-like nanosystem for MR molecular and chemo-radio sensitization**, *J. Control. Release* 347, 55-67 (2022). doi: 10.1016/j.jconrel.2022.04.033.

[14] Quan Tao, Genghan He, Sheng Ye, Di Zhang, Zhide Zhang*, **Li Qi***, and Ruiyuan Liu*, **Mn doped Prussian blue nanoparticles for T1T2 MR imaging, PA imaging and Fenton reaction enhanced mild temperature photothermal therapy of tumor**, *J. Nanobiotech.* 20:18 (2022). doi: 10.1186/s12951-021-01235-2.

[15] Zhichao Liang, Shuangyang Zhang, Jian Wu, Xipan Li, Zhijian Zhuang, Qianjin Feng, Wufan Chen, and **Li Qi***, **Automatic 3-D segmentation and volumetric light fluence correction for photoacoustic tomography based on optimal 3-D graph search**, *Med. Image Anal.*

75,102275 (2022). doi: 10.1016/j.media.2021.102275.

[16] Xipan Li#, Jia Ge#, Shuangyang Zhang, Jian Wu, **Li Qi***, and Wufan Chen*, **Multispectral interlaced sparse sampling photoacoustic tomography based on directional total variation**, *Comput. Meth. Prog. Bio.*, (2022). doi: 10.1016/j.cmpb.2021.106562.

2021

[17] **Li Qi**#, Zhijiang Zhuang#, Shuangyang Zhang, Shixian Huang, Qianjin Feng, and Wufan Chen*, **Automatic correction of the initial rotation angle error improves 3D reconstruction in endoscopic airway optical coherence tomography**, *Biomed. Opt. Express* 12, 7616-7631 (2021). doi: 10.1364/BOE.439120.

[18] Tiancheng Huo, **Li Qi**, Jason J. Chen, Yusi Miao, Yan Li, Zhikai Zhu, Zhongping Chen*, **Integrated pulse scope for tunable generation and intrinsic characterization of structured femtosecond laser**, *Sci Rep* 11, 9670 (2021). doi: 10.1038/s41598-012-87938-w.

[19] **Li Qi**# *, Jian Wu#, Xipan Li, Shuangyang Zhang, Shixian Huang, Qianjin Feng and Wufan Chen*, **Photoacoustic Tomography Image Restoration with Measured Spatially Variant Point Spread Functions**, *IEEE Trans. Med. Imaging*, 40(9):2318-2328. (2021). doi: 10.1109/TMI.2021.3077022.

2020

[20] Xiangdong Sun, Lijun Lu, **Li Qi**, Yingjie Mei, Xiaoyun Liu and Wufan Chen*, **MR-Based Electrical Conductivity Imaging Using Second-Order Total Generalized Variation Regularization**, *Appl. Sci.*, 10, 7910, (2020). doi: 10.3390/app10217910.

[21] **Li Qi***, Shixian Huang, Xipan Li, Shuangyang Zhang, Lijun Lu, Qianjin Feng, Wufan Chen*, **Cross-sectional Photoacoustic Tomography Image Reconstruction with a Multi-Curve Integration Model**, *Comput. Meth. Prog. Bio.*, 197, 105731, (2020). doi: 10.1016/j.cmpb.2020.105731.

[22] Xipan Li, Shuangyang Zhang, Jian Wu, Shixian Huang, Qianjin Feng, **Li Qi***, and Wufan Chen*, **Multispectral Interlaced Sparse Sampling Photoacoustic Tomography**, *IEEE Trans. Med. Imaging*, 39(11), 3463-3474, (2020). doi: 10.1109/TMI.2020.2996240.

[23] Tiancheng Huo, **Li Qi**, Jason J. Chen, Yusi Miao, Yan Li, Zhongping Chen*, **Vectorial Interferometric Polarimeter for Electric-field Reconstruction**, *arXiv*:2001.02803, (2020). doi: 10.48550/arXiv.2001.02803.

[24] Xiangdong Sun, Lijun Lu, **Li Qi**, Yingjie Mei, Xiaoyun Liu, Wufan Chen*, **A robust electrical conductivity imaging method with total variation and wavelet regularization**, *Magn. Reson. Imaging,* 69, 28-39, (2020). doi: 10.1016/j.mri.2020.02.015.

2019

[25] Yanjing Dong, Zikang Chen, Meirong Hou, **Li Qi**, Chenggong Yan, Xiaodan Lu, Ruiyuan Liu*, Yikai Xu*, **Mitochondria-targeted aggregation-induced emission active near infrared fluorescent probe for real-time imaging**, *Spectrochim. Acta A Mol. Biomol. Spectrosc.*, 224, 117456, (2019). doi: 10.1016/j.saa.2019.117456.

[26] Jiang Zhu, Aneeka M. Hancock, Li Qi, Klaus Telkmann, Babak Shahbaba, Zhongping Chen*, Ron D. Frostig*, Spatiotemporal dynamics of pial collateral blood flow following permanent middle cerebral artery occlusion in a rat model of sensory-based protection: a Doppler optical coherence tomography study, *Neurophoton.* 6(4), 045012 (2019). doi: 10.1117/1.NPh.6.4.045012.

[27] Shuangyang Zhang, Li Qi*, Xipan Li, Jiaming Liu, Shixian Huang, Jian Wu, Ruiyuan Liu, Yanqiu Feng, Qianjin Feng and Wufan Chen*, Photoacoustic imaging of living mice enhanced with a low-cost contrast agent, *Biomed. Opt. Express* 10(11), 5744-5754 (2019). doi: 10.1364/BOE.10.005744.

[28] Konrad M. Kozlowski, Giriraj K. Sharma, Jason J. Chen, **Li Qi**, Kathryn Osann, Joseph C. Jing, Gurpreet S. Ahuja, Andrew E. Heidari, Phil-Sang Chung, Sehwan Kim, Zhongping Chen, Brian J.-F. Wong*, **Dynamic programming and automated segmentation of optical coherence tomography images of the neonatal subglottis: enabling efficient diagnostics to manage subglottic stenosis**, *J. Biomed. Opt.* 24(9), 096001 (2019). doi: 10.1117/1.JBO.24.9.096001.

[29] Xipan Li, **Li Qi***, Shuangyang Zhang, Shixian Huang, Jian Wu, Lijun Lu, Yanqiu Feng, Qianjin Feng, Wufan Chen*, **Model-Based Optoacoustic Tomography Image Reconstruction with Non-local and Sparsity Regularizations**, *IEEE Access*, 7, 102136-102148 (2019). doi: 10.1109/ACCESS.2019.2930650.

[30] Zikang Chen, Qi Xia, Yuping Zhou, Xipan Li, **Li Qi**, Qianjin Feng, Ruiyuan Liu*, and Wufan Chen. **2-Dicyanomethylenethiazole Based NIR Absorption Organic Nanoparticles for Photothermal Therapy and Photoacoustic Imaging**. *J. Mater. Chem. B,* 7, 3950, (2019). doi: 10.1039/C9TB00808J.

[31] **Li Qi**, Kaibin Zheng, Xipan Li, Qianjin Feng, Zhongping Chen, and Wufan Chen*, **Automatic three-dimensional segmentation of endoscopic airway OCT images**. *Biomed. Opt. Express* 10(2), 642-656 (2019). doi: 10.1364/OE.23.033992.

2018 & before

[32] Jiang Zhu, Buyun Zhang, **Li Qi**, Ling Wang, Qiang Yang, Zhuqing Zhu, Tiancheng Huo, and Zhongping Chen*. **Quantitative angle-insensitive flow measurement using relative standard deviation OCT**. *Appl. Phys. Lett.* 111(18): 181101. (2017). doi:

10.1063/1.5009200.

[33] Jiang Zhu, Yusi Miao, **Li Qi**, Yueqiao Qu, Youmin He, Qiang Yang, Zhongping Chen*, **Longitudinal shear wave imaging for elasticity mapping using optical coherence elastography.** *Appl. Phys. Lett.* 110(20):1419. (2017). doi: 10.1063/1.4983292.

[34] Jiang Zhu, **Li Qi**, Yusi Miao, Teng Ma, Cuixia Dai, Yueqiao Qu, Youmin He, Yiwei Gao, Qifa Zhou and Zhongping Chen*, **3D mapping of elastic modulus using shear wave optical micro-elastography.** *Sci. Rep.*, 6:35499, (2016). doi: 10.1038/srep35499.

[35] **Li Qi**, Jiang Zhu, Xuping Zhang, Aneeka M. Hancock, Cuixia Dai, Ron D. Frostig and Zhongping Chen*, **Fully distributed absolute blood flow velocity measurement for middle cerebral arteries using Doppler optical coherence tomography.** *Biomed. Opt. Express*, 7(2), 601. (2016). doi: 10.1364/BOE.7.000601.

[36] **Li Qi**, Shenghai Huang, Andrew E. Heidari, Cuixia Dai, Jiang Zhu, Xuping Zhang and Zhongping Chen*, **Automatic airway wall segmentation and thickness measurement for long-range optical coherence tomography images.** *Opt. Express*, 23(26), 33992. (2015). doi: 10.1364/OE.23.033992.

[37] **Li Qi**, Yixin Zhang, Shun Wang, Zhiqiang Tang, Huan Yang and Xuping Zhang*, **Laser cutting of irregular shape object based on stereo vision laser galvanometric scanning system.** *Opt. Lasers Eng.,* 68, 180-187. (2015). doi: 10.1016/j.optlaseng.2014.15.007.

[38] **Li Qi,** Shun Wang, Yixin Zhang, Yingying Sun and Xuping Zhang*, **processing of irregular shape objects by stereo vision measurement: application in badminton shuttle manufacturing.** *Opt. Eng.*, 54(11), 103114. (2015). doi: 10.1117/1.OE.54.11.113101.

[39] Xuping Zhang, **Li Qi**, Zhiqiang Tang and Yixin Zhang*, **Portable true random number generator for personal encryption application based on smartphone camera.** *Electron. Lett.*, 50(24), 1841-1843. (2014). doi: 10.1049/el.2014.2870.

[40] **Li Qi**, Yixin Zhang, Xuping Zhang*, Shun Wang and Fei Xie, **Statistical behavior analysis and precision optimization for the laser stripe center detector based on Steger's algorithm.** *Opt. Express*, 21(11), 13442-13449. (2013). doi: 10.1364/OE.21.013442.

[41] Shun Wang, **Li Qi**, Yixin Zhang, Xuping Zhang* and Qian Yu, **Planar-Target-Based Structured Light Calibration Method for Flexible Large-Scale 3D Vision Measurement.** *Sensor Mater.*, 7(25), 501-508. (2013). doi: 10.18494/sam.2013.864.

[42] Fei Xie, Yixin Zhang, Shun Wang, Xuping Zhang* and **Li Qi**, **Robust extrication**

method for line structured light stripe. *Optik*, 124(23), 6400-6403. (2013). doi: 10.1016/j.ijleo.2013.05.059.

2. 会议论文

[1] 张双阳, **戚力***, 陈武凡*, **基于磁共振信息的光声图像校正与恢复**, *2021 中国光学学会学术大会*, #09-65, 深圳 (2021)

[2] Shuangyang Zhang, Xipan Li, Zhichao Liang, Jian Wu, Shixian Huang, Zhijian Zhuang, Yanqiu Feng, Qianjin Feng, **Li Qi***, Wufan Chen, **In vivo hybrid-contrast tomographic imaging by Magnetic Resonance Imaging and Photoacoustic Tomography**, *T05 Biophotonics and Biomedical Optics-A*, Optoelectronic Global Conference - OGC2020, #22, Shenzhen (2020)

[3] Xipan Li, Shuangyang Zhang, Jian Wu, Shixian Huang, Qianjin Feng, **Li Qi*** and Wufan Chen, **Multispectral photoacoustic tomography with a new sparse sampling scheme**, *T05 Biophotonics and Biomedical Optics-A*, Optoelectronic Global Conference - OGC2020, #23, Shenzhen (2020)

[4] Jian Wu, Xipan Li, Shuangyang Zhang, Shixian Huang, Qianjin Feng, **Li Qi***, Wufan Chen, **Measuring the space-variant point spread function for photoacoustic image deblurring**, *T05 Biophotonics and Biomedical Optics-A*, Optoelectronic Global Conference - OGC2020, #24 Shenzhen (2020)

[5] Zhijian Zhuang, Shuangyang Zhang, Xipan Li, Jian Wu, Shixian Huang, Qianjin Feng, **Li Qi*** and Wufan Chen, **Automatic initial rotation angle error correction for endoscopic airway OCT improves 3D structural reconstruction**, *T05 Biophotonics and Biomedical Optics-A*, Optoelectronic Global Conference - OGC2020, #26, Shenzhen (2020)

[6] **Li Qi**, **Graph-theory-based image processing of endoscopic airway optical coherence tomography**, *Optical Sensor and Applications*, International Conference on Optical Instrument & Technology -OIT, Beijing, (2019) （邀请报告）

[7] Tiancheng Huo, **Li Qi**, Yusi Miao, Zhonglie Piao, Buyun Zhang, Jiang Zhu, Yan Li, Zhongping Chen, **Femtosecond laser with intracavity controlled higher-order Poincaré sphere beams and total E-field reconstruction of the pulses.** In *Complex Light and Optical Forces XII 2018,* vol. 10549, p. 10549-15. International Society for Optics and Photonics, (2018)

[8] Tiancheng Huo, **Li Qi**, Qiang Yang, Buyun Zhang, Zhongping Chen, **Demonstration of ghost imaging in the spectral domain**. In *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXV 2018,* vol. 10499, p. 10499-19. International Society for Optics and Photonics, (2018)

[9] Konrad Kozlowski, Giriraj Sharma, Brian Wong, Jason Chen, Zhongping Chen, Joseph

Jing, and **Li Qi**, **Clinical evaluation of subglottic stenosis in neonates using automatic segmentation of optical coherence tomography via dynamic programming.** In *Optical Imaging, Therapeutics, and Advanced Technology in Head and Neck Surgery and Otolaryngology 2018*, vol. 10469, p. 104690B. International Society for Optics and Photonics, (2018)

[10] Buyun Zhang, Jiang Zhu, **Li Qi**, Yiwei Gao, Tiancheng Huo, Zhuqing Zhu, and Zhongping Chen. **Quantitative angle-independent flow measurement using relative standard deviation OCT.** In *Optical Coherence Tomography and Coherence Domain Optical Methods in Biomedicine XXI*, vol. 10053, p. 1005312. International Society for Optics and Photonics, (2017).

[11] Yusi Miao, Jiang Zhu, **Li Qi**, Yueqiao Qu, Youmin He, Yiwei Gao, and Zhongping Chen. **Longitudinally polarized shear wave optical coherence elastography.** In *Optical Elastography and Tissue Biomechanics IV*, vol. 10067, p. 1006703. International Society for Optics and Photonics, (2017).

[12] **Li Qi,** Jiang Zhu, Aneeka M. Hancock, Cuixia Dai, Xuping Zhang, Ron D. Frostig, Zhongping Chen, **Volumetric vessel reconstruction method for absolute blood flow velocity measurement in Doppler OCT images**. *Proc. SPIE,* San Francisco, 10053, 1005331, (2017);

[13] **Li Qi**, Shenghai Huang, Andrew E. Heidar, Cuixia Dai, Jiang Zhu, Xuping Zhang and Zhongping Chen, **Automatic airway wall segmentation and thickness measurement for long-range optical coherence tomography images**. *Proc. SPIE,* San Francisco, 9697, 96973B, (2016);

[14] Zhonglie Piao, Shenghai Huang, **Li Qi**, Jiang Zhu, Fan Lu and Zhongping Chen. **Automatic three-dimensional segmentation combined with in vivo microvascular network imaging of human retina by intensity-based Doppler variance optical coherence tomography**. *Proc. SPIE,* San Francisco, 9697, 96973A, (2016);

[15] 张旭苹，张超，张益昕，**戚力**，王顺，**一种先验知识引导的自适应压缩感知成像方法**，*全国光机电技术及系统学术会议*，桂林，中国，(2016)（邀请报告）

[16] **Li Qi**, Xuping Zhang, Jiaqi Wang, Yixin Zhang, Shun Wang and Fan Zhu. **Error analysis and system implementation for structured-light stereo vision 3D geometric detection in large scale condition**. *Proc. SPIE,* San Francisco, 8555, 855521, (2012);

3. 授权专利

[1] 张双阳，陈武凡，**戚力**，一种光声与磁共振联合成像方法，中国，发明专利，专利号：202110973661.2

[2] **戚力**，秦羽洁，冯前进，陈武凡，一种干式耦合的倒置式 OCT 弹性成像系统，中国，实用新型专利，专利号：202120537891X

[3] 理喜盼，**戚力**，田昌敏，张双阳，吴建，冯前进，陈武凡，一种交错稀疏采样多光谱光声断层成像系统及方法，中国，发明专利，专利号：202010285780.4

[4] **戚力**，张双阳，黄诗娴，理喜盼，刘嘉明，冯前进，陈武凡，一种实现光声与他模态串行成像的方法及配准装置，中国，发明专利，专利号：201810583179.6

[5] 孙祥栋，陈武凡，路利军，**戚力**，刘晓云. 一种基于双约束的介电特性迭代成像方法. 中国，发明专利，专利号：201811215000.8

[6] 张益昕, 张超, 张旭苹, 董嘉赟, **戚力**, 朱文娟, 基于显著视觉和 DMD 阵列分区控制的压缩感知成像方法, 中国, 发明专利，专利号:201610670618.8.

[7] 张益昕, 张旭苹, 王顺, **戚力**, 张超. 一种双目立体视觉引导下的激光振镜加工系统的标定方法, 中国, 发明专利，专利号: 201410660688.6

[8] 张益昕, 张旭苹, 乔苇岩, 唐志强, **戚力**. 一种便携式真随机码发生装置及方法, 中国, 发明专利，专利号: 201410516031.2

[9] 王顺, 张旭苹, **戚力**, 张益昕, 杨国文. 电力机车受电弓在线磨损检测方法与系统, 中国, 发明专利，专利号: 201110349370.2

[10] 张旭苹, 张益昕, 杨国文, 王顺, **戚力**, 李建华. 高速机车受电弓滑板磨损自动检测装置, 中国, 发明专利， 专利号: 201110349366.6

[11] 郭亚敏, 肖舰, **戚力**, 俞乾, 张益昕, 王顺, 张旭苹. 一种用于机器视觉自动标定的主动发光式标靶及其标定方法, 中国, 发明专利，专利号: 201110328922.1

4. 公开专利

[1] 陈武凡，阮国辉，王兆年，冯衍秋，**戚力**，一种基于物理神经网络的电特性断层成像方法，中国，发明专利，专利号：2022110332826

[2] 张双阳，陈武凡，**戚力**，一种光声图像衰减校正方法，中国，发明专利，专利号：202110974322.6

[3] 张双阳，陈武凡，**戚力**，基于磁共振信息的光声图像衰减校正方法，中国，发明专利，专利号：202110974231.2

[4] **戚力**，理喜盼，冯前进，陈武凡，基于模型的双约束光声断层图像重建方法，中国，发明专利，专利号：201910758438.9

[5] **戚力**，郑凯斌，冯前进，陈武凡，一种呼吸道内窥光学相干断层图像的三维自动分割方法，中国，发明专利，专利号：201910034191.6

[6] 严承功，赵冰夏，许乙凯，**戚力**，侯美蓉，朱凯，一种铜铁锑硫纳米颗粒及其制备方法和应用，中国，发明专利，专利号：201910130556.5

[7] **戚力**，庄留燕，郑凯斌，黄诗娴，冯前进，陈武凡，塑料光纤作为内窥 OCT 成像探头部件的用途，中国，发明专利，专利号：201811439124.4

[8] **戚力**，张双阳，冯前进，陈武凡，脂肪乳剂作为光声成像造影剂的用途，中国，发明专利，专利号：201811439124.4

[9] **戚力**，黄诗娴，冯前进，陈武凡，一种头戴式的微型光片显微镜，中国，发明专利，专利号：201711439890.6

[10] 张益昕, 张旭苹, **戚力**, 王顺, 张超. 一种羽毛缺陷检测系统及方法, 中国, 发明专利，专利号: 201510026634.9

[11] 张益昕, **戚力**, 王顺, 张超, 张旭苹. 一种双目直视相机的标定靶标、标定系统及标定方法, 中国, 发明专利，专利号: 201510101490.9

5. 学术奖励

戚力（5/5），基于立体视觉引导的智能羽毛识别与裁切技术及其在三段羽毛球制备中的应用，中国人工智能学会，吴文俊人工智能科学技术奖进步奖，三等奖，2013（张旭苹，王顺，张益昕，戴建霖，**戚力**）