Curriculum Vitae

(Last updated: Sep. 29, 2023)

Sung-Liang Chen, Ph.D.

Department of Electrical and Computer Engineering
University of Michigan-Shanghai Jiao Tong University Joint Institute
Shanghai Jiao Tong University
Rm. 428, UM-SJTU Joint Institute
800 Dongchuan Rd., Shanghai 200240, China
Tel: 021-34206765 ext-4281
Fax: 021-34206525
Email: sungliang.chen@sjtu.edu.cn
Web: http://umji.sjtu.edu.cn/~slchen

EDUCATION

2011 Ph.D., Electrical Engineering, University of Michigan, Ann Arbor, MI

2005 M.S., Electro-optical Engineering, National Taiwan University, Taipei, Taiwan

2003 B.S., Electrical Engineering, National Taiwan University, Taipei, Taiwan

EMPLOYMENT

1/2022 – present	Associate Professor (with tenure) Department of Electrical and Computer Engineering, University of Michigan-Shanghai Jiao Tong University Joint Institute, Shanghai, China
1/2019 – 12/2021	Associate Professor (without tenure) Department of Electrical and Computer Engineering, University of Michigan-Shanghai Jiao Tong University Joint Institute, Shanghai, China
5/2013 – 12/2018	Assistant Professor Department of Electrical and Computer Engineering, University of Michigan-Shanghai Jiao Tong University Joint Institute, Shanghai, China
1/2012 – 3/2013	Research Fellow Department of Radiology University of Michigan, Ann Arbor, MI
3/2007 – 7/2007	Research Assistant Department of Electrical Engineering National Taiwan University, Taipei, Taiwan

TEACHING EXPERIENCE

VE215:	Introduction to Circuits (Summer/2014, Fall/2014, Fall/2015, Fall/2016, Fall/2017, Fall/2018, Fall/2019, Fall/2020, Fall/2021, Fall/2022, Fall/2023)

VE216: Introduction to Signals and Systems
(Summer/2013)

VE230: Electromagnetics I
(Summer/2015, Summer/2016, Summer/2017, Summer/2018, Summer/2019, Summer/2020, Summer/2021, Summer/2022)

VE530: Electricity and Magnetism
(Fall/2013, Fall/2014, Fall/2016, Fall/2017, Fall/2018, Fall/2019)

VE534: Optics and Photonics
(Fall/2020, Fall/2021, Fall/2022, Fall/2023)

PAST AND CURRENT SUPPORT

1. PRESENT FUNDING

1. Title: (sub-topic) Research and development of handheld photoacoustic microscopy imaging equipment
   Sponsor: Shanghai Jiao Tong University
   Duration: 01/01/2022 – 12/31/2024
   Amount: 250,000 RMB
   PI: Shasha Liu (9th Hospital), co-PI: S.-L. Chen (share 125,000 RMB)
2. Title: Research on the growth law of lithium metal of lithium metal batteries based on in-situ online photoacoustic imaging and artificial intelligence.
   Sponsor: Natural Science Foundation of Shanghai (No. 22ZR1428900)
   Duration: 04/01/2022 – 03/31/2025
   Amount: 200,000 RMB
   PI: S.-L. Chen (share 100,000 RMB), co-PI: S.-H. Bo
3. Title: Diagnosis of carotid artery plaque based on multi-scale photoacoustic molecular imaging and artificial intelligence
   Sponsor: National Natural Science Foundation of China (No. 82130057)
   Duration: 01/01/2022 – 12/31/2026
   Amount: 2,900,000 RMB
   PI: Rong Wu (Shanghai General Hospital), PI: S.-L. Chen (share 1,450,000 RMB)
4. Title: High-resolution terahertz photoacoustic bioimaging technology
   Sponsor: National Natural Science Foundation of China (No. 62235013)
   Duration: 01/01/2023 – 12/31/2027
   Amount: 2,830,000 RMB
   PI: Z. Tian (Tianjin University), co-PIs: S.-L. Chen (share 849,000 RMB) and others

2. PAST FUNDING

5. Title: Optical-resolution photoacoustic endoscopic probe
   Sponsor: Covidien Master Product Innovation [Industry]
   Duration: 09/01/2014 – 08/31/2015
   Amount: 100,000 RMB
   PI: S.-L. Chen
6. Title: All-optical integrated optical- and acoustic-resolution photoacoustic microscopy
   Sponsor: STCSM, Shanghai Pujiang Talent Program (No. 14PJ1404400)

Duration: 07/01/2014 – 06/30/2016
Amount: 200,000 RMB
PI: S.-L. Chen

7. Title: Large depth-of-field photoacoustic microscopy based on optical millimeter-ring resonators
   Sponsor: National Natural Science Foundation of China (No. 61405112)
   Duration: 01/01/2015 – 12/31/2017
   Amount: 260,000 RMB
   PI: S.-L. Chen
8. Title: Optical coherence tomography and photoacoustic dual-modality endoscopic imaging for the diagnosis of atherosclerosis
   Sponsor: Ministry of Science and Technology-Youth 863 (No. 2015AA020944)
   Duration: 01/01/2015 – 12/31/2017
   Amount: 1,180,000 RMB
   PI: Jigang Wu, Co-PIs: S.-L. Chen (share ~370,000 RMB), Tian Yang, Lixin Jiang
9. Title: Development of dorsal skinfold window chamber in nude mice and its application in tumor photoacoustic imaging
   Sponsor: STCSM (No. 15140901400)
   Duration: 07/01/2015 – 09/30/2017
   Amount: 250,000 RMB
   PI: Lixin Jiang (6th Hospital), Co-PI: S.-L. Chen (share 50,000 RMB)
10. Title: Non-contact all-optical photoacoustic endomicroscopy
    Sponsor: State Key Laboratory of Advanced Optical Communication Systems and Networks, Shanghai Jiao Tong University
    Duration: 01/01/2016 – 12/31/2017
    Amount: 200,000 RMB
    PI: S.-L. Chen
11. Title: Study of the change of microcirculation by photoacoustic imaging during the treatment of sepsis by mesenchymal stem cells
    Sponsor: Shanghai Jiao Tong University (No. 16X190020085)
    Duration: 01/01/2016 – 12/31/2018
    Amount: 210,000 RMB
    PI: Yuxiao Deng (Renji Hospital), Co-PI: S.-L. Chen (share 70,000 RMB)
12. Title: Development of algorithms for continuous online monitoring of two-dimensional temperature fields based on acoustic waves
    Sponsor: Palmary Technology Ltd. [Industry]
    Duration: 06/01/2019 – 10/31/2019
    Amount: 25,000 RMB
    PI: S.-L. Chen
13. Title: Development of optical-resolution photoacoustic microscopy
    Sponsor: Shandong Gequan Information Technology Co., Ltd. [Industry]
    Duration: 05/01/2020 – 10/31/2020
    Amount: 30,000 RMB
    PI: S.-L. Chen
14. Title: Photoacoustic imaging of lithium metal batteries
    Sponsor: Huawei [Industry]
    Duration: 01/01/2019 – 12/31/2021

Amount: 600,000 RMB
PI: S.-H. Bo, co-PI: S.-L. Chen (share 132,000 RMB)

15. Title: Focusing-free photoacoustic endomicroscopy based on a miniature fiber photoacoustic imaging probe and a mirrored synthetic aperture
Sponsor: National Natural Science Foundation of China (No. 61775134)
Duration: 01/01/2018 – 12/31/2021
Amount: 660,000 RMB
PI: S.-L. Chen

16. Title: Study on microcirculation changes in myogenic temporomandibular joint disorder based on photoacoustic microscopy; three-dimensional imaging of subchondral microvessels in mouse knee osteoarthritis model based on photoacoustic imaging
Sponsor: Engineering Research Center of Digital Medicine and Clinical Translation (DMCT) (No. 20210405, 20210408)
Duration: 04/15/2021 – 12/15/2021
Amount: 200,000 RMB
PI: Lili Xu (9th Hospital) and Chenglei Liu (9th Hospital), Co-PI: S.-L. Chen (share 100,000 RMB)

17. Title: Study on the value of using photoacoustic microscopy imaging to quantitatively detect microcirculation status for early identification of sepsis in patients
Sponsor: Shanghai Jiao Tong University (No. 15X190020085)
Duration: 01/01/2020 – 12/31/2022
Amount: 300,000 RMB
PI: Yuan Gao (Renji Hospital), Co-PI: S.-L. Chen (share 200,000 RMB)

18. Title: Automatic intelligent inspection APP for the offset of the center of anchor bolts to that of the main column in the same group
Sponsor: Luoyang Longyu Group Co., Ltd. [Industry]
Duration: 06/01/2021 – 12/31/2022
Amount: 150,000 RMB
PI: S.-L. Chen

19. Title: Intelligent control and identification system of cross-rack safety and quality
Sponsor: Anyang Youchuang Industrial Co., Ltd. [Industry]
Duration: 06/01/2021 – 12/31/2022
Amount: 88,000 RMB
PI: S.-L. Chen

20. Title: Rapid large-area heating based on photothermal effect and detection of bonding interface
Sponsor: CATL [Industry]
Duration: 09/01/2022 – 8/31/2023
Amount: 240,000 RMB
PI: S.-L. Chen

PROFESSIONAL SERVICE

- Organizer and Session Chair:

  Member of Forum 10: Biological and medical optics and photonics
  The 4th National Conference on Optoelectronics, photonic materials and devices, Qingdao, China 2023

Session Chair of Translational Biophotonics 6
The 16th International Conference on Photonics and Imaging in Biology and Medicine (PIBM), Hainan, China 2023

Session Chair of 2P6: Biomedical Imaging and Sensing Involving both Light and Ultrasound 2
Progress In Electromagnetics Research Symposium (PIERS), Toyama, Japan 2018

Co-chair of Track 7: Biomedical Optics
TheOptoElectronics and Communication Conference (OECC), Shanghai, China 2015

Organizer
Workshop for UM-SJTU Joint Lab on Multimodality Biomedical Imaging, Shanghai, China 2013

- Editor for journals:

Youth Editor
Journal of Innovative Optical Health Sciences 2023–present

Associate Editor
Frontiers in Neuroscience (section Brain Imaging Methods) 2022–present

Guest Editor for Special Issue: Optical and Acoustic Methods for Biomedical Imaging and Sensing
Sensors 2022–2023

Guest Editor for Special Issue: Cerebral Vessel Extraction: From Image Acquisition to Machine Learning
Frontiers in Neuroscience 2021

Topical Advisory Panel Member
Sensors 2021–present

Youth Editor
Journal of Shanghai Jiao Tong University (Science) 2020–present

Co-guest Editor
Journal of Shanghai Jiao Tong University (Science)-JI Special Issue 2017

- Reviewer for journals:

Nature Communications
IEEE Transactions on Medical Imaging
Journal of Biophotonics
IEEE Journal of Selected Topics in Quantum Electronics
Scientific Reports
Photoacoustics
Optics Letters
Optics Express
Biomedical Optics Express
Journal of Biomedical Optics
Journal of Innovative Optical Health Sciences
Sensors
Chinese Optics Letters

- Internal Committee Member/Chair:

Head, Discipline Group of Electromagnetics, Optics, and Photonics, UM-SJTU Joint Institute 2023–present

Member, Teaching Quality Assurance Committee, UM-SJTU Joint Institute 2023–present

Member, Promotion and Tenure Committee, UM-SJTU Joint Institute 2022–present

Member, Undergraduate Committee, UM-SJTU Joint Institute 2019–present

Chair, Undergraduate Research Committee, UM-SJTU Joint Institute 2018–2019

Member, Undergraduate Research Committee, UM-SJTU Joint Institute 2014–2018

HONORS AND AWARDS

The 1000 Talents Plan, the Chinese Recruitment Program of Global Experts for young professionals (2015)

Shanghai Pujiang Talent, Science and Technology Commission of Shanghai Municipality (2014)

Rackham Conference Travel Grants, University of Michigan (2009, 2010, 2011)

EECS department fellowship, University of Michigan (2007)

Class A scholarship, National Taiwan University (2004–2005)

GARMIN Corp. scholarship (2004)

PROFESSIONAL AFFILIATIONS

Member, IEEE 2023–present

Member, Biophotonics Committee, Chinese Optical Society (COS) 2021–present

Youth Member, Biophotonics Branch, Chinese Society of Biomedical Engineering (CSBME) 2017–present

Member, the International Society of Optical Engineering (SPIE) 2017

LIST OF PUBLICATIONS

A. Peer-Reviewed Journal Publications

(* denotes the corresponding author; [ ] denotes equal contributions)

2023

1. [P. He, G. Chen], M. Huang, L. Jing, W. Wu,* H.-C. Kuo, C.-C. Tu,* and **S.-L. Chen***, "Biodegradable germanium nanoparticles as contrast agents for near-infrared-II photoacoustic imaging," Nanoscale 15, 11544–11559 (2023)
2. N. Wan, M. Seong, K. Zhang, W. Niu, R. Wu, and **S.-L. Chen***, "Sensing of triglyceride concentration in blood solution using photoacoustic microscopy," Opt. Lett. 48, 3769–3772 (2023)
3. [N. Wan, P. Zhang], Z. Liu, Z. Li, W. Niu, X. Rui, S. Wang, M. Seong, P. He, S. Liang, J. Zhou, R. Yang*, and **S.-L. Chen***, "Implantable QR code subcutaneous microchip using

photoacoustic and ultrasound microscopy for secure and convenient individual identification and authentication," Photoacoustics 31, 100504 (2023)

4. S. Liang, J. Zhou, Z. Guo, D. He, W. Yang, Z. Ye, W. Shao, L. Jing, and **S.-L. Chen***, "Miniature probe for optomechanical focus-adjustable optical-resolution photoacoustic endoscopy," IEEE Trans. Med. Imaging 42, 2400–2413 (2023)

5. [D. He, J. Zhou], X. Shang, X. Tang, J. Luo*, and **S.-L. Chen***, "De-noising of photoacoustic microscopy images by attentive generative adversarial network," IEEE Trans. Med. Imaging 42, 1349–1362 (2023)

2022

6. B. Qin*, **S.-L. Chen***, P. Miao, and Z. Teng, "Editorial: Cerebral vessel extraction-from image acquisition to machine learning," Front. Neurosci. 16, 972389 (2022)

7. [Z. Li, P. He], Y. Xu, Y. Deng, Y. Gao*, and **S.-L. Chen***, "In vivo evaluation of a lipopolysaccharide-induced ear vascular leakage model in mice using photoacoustic microscopy," Biomed. Opt. Express 13, 4802–4816 (2022)

8. J. Zhou, Y. Zhao, H. Liu, X. Tang, **S.-L. Chen***, and S.-H. Bo*, "Rapid 3D nondestructive imaging technology for batteries: Photoacoustic microscopy," J. Mater. Res. 37, 3283–3296 (2022)

9. [F. Feng, S. Liang], J. Luo*, and **S.-L. Chen***, "High-fidelity deconvolution for acoustic-resolution photoacoustic microscopy enabled by convolutional neural networks," Photoacoustics 26, 100360 (2022)

10. [F. Feng, S. Liang], and **S.-L. Chen***, "Image enhancement in acoustic-resolution photoacoustic microscopy enabled by a novel directional algorithm," Biomed. Opt. Express 13, 1026–1044 (2022)

11. M. Seong, W. Yang, Y. Han, J. Zhou, L. Jing, and **S.-L. Chen***, "Investigation of nonlinear photoacoustic microscopy using a low-cost infrared lamp," J. Biophotonics 15, e202100301 (2022)

12. S. Liang, J. Zhou, W. Yang, and **S.-L. Chen***, "Cerebrovascular imaging in vivo by non-contact photoacoustic microscopy based on photoacoustic remote sensing with a laser diode for interrogation," Opt. Lett. 46, 18–21 (2022)

2021

13. J. Zhou, J. Zhou, W. Wang, S. Liang, L. Jing, S.-H. Bo, and **S.-L. Chen***, "Miniature non-contact photoacoustic probe based on fiber-optic photoacoustic remote sensing microscopy," Opt. Lett. 46, 5767–5770 (2021) [**Optica Spotlight on Optics**: https://opg.optica.org/spotlight/summary.cfm?id=464854]

14. Y. Zhao, Y. Wu, H. Liu, **S.-L. Chen**, and S.-H. Bo*, "Accelerated growth of electrically isolated lithium metal during battery cycling," ACS Appl. Mater. Interfaces 13, 35750–35758 (2021)

15. [W. Yang, W. Wang], L. Jing*, and **S.-L. Chen***, "Label-free photoacoustic microscopy: A potential tool for the live imaging of blood disorders in zebrafish," Biomed. Opt. Express 12, 3643–3657 (2021)

16. W. Yang, J. Zhou, W. Shao, M. Seong, P. He, Z. Ye, Z. Guo, L. Jing, and **S.-L. Chen***, "Photoacoustic-fluorescence microendoscopy *in vivo*," Opt. Lett. 46, 2340–2343 (2021)

17. N. Wan, M. Seong, and **S.-L. Chen***, “Theoretical investigation of photoacoustics from cancer cells: modified models,” IEEE J. Sel. Top. Quantum Electron. 27, 7300410 (2021)

18. **S.-L. Chen*** and C. Tian*, “Recent developments in photoacoustic imaging and sensing for nondestructive testing and evaluation,” Visual Computing for Industry, Biomedicine, and Art 4, 6 (2021)

19. J. Zhou, W. Wang, L. Jing, and **S.-L. Chen***, “Dual-modal imaging with non-contact photoacoustic microscopy and fluorescence microscopy,” Opt. Lett. 46, 997–1000 (2021)

20. [J. Zhou, D. He], X. Shang, Z. Guo, **S.-L. Chen***, and J. Luo*, “Photoacoustic microscopy with sparse data enabled by convolutional neural networks,” Photoacoustics 22, 100242 (2021)

2020

21. [D. He, D. Cai], J. Zhou, J. Luo*, and **S.-L. Chen***, “Restoration of out-of-focus fluorescence microscopy images using learning-based depth-variant deconvolution,” IEEE Photonics J. 12, 3900113 (2020)

22. W. Yang and **S.-L. Chen***, “Time-gated fluorescence imaging: advances in technology and biological applications,” J. Innov. Opt. Heal. Sci., 20300006 (2020) [**Awarded as highly-cited paper** by the Editorial Office]

23. M. Seong and **S.-L. Chen***, “Recent advances toward clinical applications of photoacoustic microscopy: a review,” Sci. China Life Sci. 63, https://doi.org/10.1007/s11427-019-1628-7 (2020)

24. G. Li, Z. Ye, S. Liang, and **S.-L. Chen***, “Miniature probe for dual-modality photoacoustic microscopy and white-light microscopy for image guidance: a prototype toward an endoscope,” J. Biophotonics 13, e201960200 (2020)

25. [H. Liu, Y. Zhao], J. Zhou, P. Li, S.-H. Bo*, and **S.-L. Chen***, “Photoacoustic imaging of lithium metal batteries,” ACS Appl. Energy Mater. 3, 1260–1264 (2020) [**Journal Cover**: https://pubs.acs.org/toc/aaemcq/3/2]

2019

26. Z. Ye, P. K. Srivastava, Y. Xu, W. Wang, L. Jing, **S.-L. Chen***, and C.-C. Tu*, “Surface-functionalized silicon nanoparticles as contrast agents for photoacoustic microscopy imaging,” ACS Appl. Nano Mater. 2, 7577–7584 (2019)

27. W. Yang, P. K. Srivastava, S. Han, L. Jing, C.-C. Tu*, and **S.-L. Chen***, “Optomechanical time-gated fluorescence imaging using long-lived silicon quantum dot nanoparticles,” Anal. Chem. 91, 5499–5503 (2019)

28. X. Tu, **S.-L. Chen**, C. Song, T. Huang, and L. J. Guo*, “Ultrahigh Q polymer microring resonators for biosensing applications,” IEEE Photonics J. 11, 4200110 (2019)

29. G. Li, Z. Guo, and **S.-L. Chen***, “Miniature probe for forward-view wide-field optical-resolution photoacoustic endoscopy,” IEEE Sens. J. 19, 909–916 (2019)

30. [Z. Guo, Z. Li], Y. Deng*, and **S.-L. Chen***, “Photoacoustic microscopy for evaluating a lipopolysaccharide-induced inflammation model in mice,” J. Biophotonics 12, e201800251 (2019)

2018

31. [D. Cai, T. T. W. Wong], L. Zhu, J. Shi, **S.-L. Chen**, and L. V. Wang*, "Dual-view photoacoustic microscopy for quantitative cell nuclear imaging," Opt. Lett. 43, 4875 (2018)

32. Y. Li, Z. Guo, G. Li, and **S.-L. Chen***, "Miniature fiber-optic high-intensity focused ultrasound device using a candle soot nanoparticles-polydimethylsiloxane composites-coated photoacoustic lens," Opt. Express 26, 21700–21711 (2018)

33. Z. Guo, G. Li, and **S.-L. Chen***, "Miniature probe for all-optical double gradient-index lenses photoacoustic microscopy," J. Biophotonics 11, e201800147 (2018) [**Journal Cover**: https://www.onlinelibrary.wiley.com/doi/10.1002/jbio.201870171]

34. Z. Guo, Y. Li, and **S.-L. Chen***, "Miniature probe for in vivo optical- and acoustic-resolution photoacoustic microscopy," Opt. Lett. 43, 1119–1122 (2018)

35. X. Zhou, D. Cai, X. He, **S.-L. Chen**, X. Wang, and T. Yang*, "Ultrasound detection at fiber end-facets with surface plasmon resonance cavities," Opt. Lett. 43, 775–778 (2018)

36. **S.-L. Chen***, "Photoacoustic imaging by use of micro-electro-mechanical system scanner," J. of Shanghai Jiao Tong Univ. (Sci.) 23, 1–10 (2018)

37. T. Yang*, X. He, X. Zhou, Z. Lei, Y. Wang, J. Yang, D. Cai, **S.-L. Chen**, and X. Wang, "Surface plasmon cavities on optical fiber end-facets for biomolecule and ultrasound detection," Opt. Laser Technol. 101, 468–478 (2018)

2017

38. G. Li, Z. Guo, and **S.-L. Chen***, "Miniature all-optical probe for large synthetic aperture photoacoustic-ultrasound imaging," Opt. Express 25, 25023–25035 (2017)

39. D. Cai, G. Li, D. Xia, Z. Li, Z. Guo, and **S.-L. Chen***, "Synthetic aperture focusing technique for photoacoustic endoscopy," Opt. Express 25, 20162–20171 (2017)

40. D. Cai, Z. Li, Y. Li, Z. Guo, and **S.-L. Chen***, "Photoacoustic microscopy in vivo using synthetic-aperture focusing technique combined with three-dimensional deconvolution," Opt. Express 25, 1421–1434 (2017)

41. **S.-L. Chen***, "Review of laser-generated ultrasound transmitters and their applications to all-optical ultrasound transducers and imaging," Appl. Sci. 7, 25 (2017)

2016

42. A. Rahimzadeh* and **S.-L. Chen**, "Finite-difference time-domain solution of second-order photoacoustic wave equation," Optica Applicata 46, 435–446 (2016)

43. D. Cai, Z. Li, and **S.-L. Chen***, "In vivo deconvolution acoustic-resolution photoacoustic microscopy in three dimensions," Biomed. Opt. Express 7, 369–380 (2016)

2015

44. **S.-L. Chen**, L. J. Guo*, and X. Wang*, "All-optical photoacoustic microscopy," Photoacoustics 3, 143–150 (2015)

45. C. Zhang, **S.-L. Chen**, T. Ling, and L. J. Guo*, "Imprinted polymer microrings as high performance ultrasound detectors in photoacoustic imaging," J. Lightwave Technol. 33, 4318–4328 (2015)

46. D. Cai, Z. Li, and **S.-L. Chen***, "Photoacoustic microscopy by scanning mirror-based synthetic aperture focusing technique," Chin. Opt. Lett. 13, 101101 (2015)

47. C. Zhang, **S.-L. Chen**, T. Ling, and L. J. Guo*, “Review of imprinted polymer microring as ultrasound detector: design, fabrication, and characterization,” IEEE Sensors J. 15, 3241–3248 (2015)

2014

48. C. Zhang, T. Ling, **S.-L. Chen**, and L. J. Guo*, “Ultrabroad bandwidth and highly sensitive optical ultrasonic detector for photoacoustic imaging,” ACS Photonics 1, 1093–1098 (2014)

49. **S.-L. Chen**, Y.-C. Chang, C. Zhang, J. G. Ok, T. Ling, M. T. Mihnev, T. B. Norris, and L. J. Guo*, “Efficient real-time detection of terahertz pulse radiation based on photoacoustic conversion by carbon nanotube nanocomposite,” Nature Photon. 8, 537–542 (2014)

50. B.-Y. Hsieh, **S.-L. Chen**, T. Ling, L. J. Guo, P.-C. Li*, “All-optical scanhead for ultrasound and photoacoustic imaging-Imaging mode switching by dichroic filtering,” Photoacoustics 2, 39–46 (2014)

Before 2013

51. **S.-L. Chen**, J. Burnett, D. Sun, X. Wei, Z. Xie, and X. Wang, “Photoacoustic microscopy: a potential new tool for evaluation of angiogenesis inhibitor,” Biomed. Opt. Express 4, 2657–2666 (2013)

52. Z. Xie, **S.-L. Chen**, M. L. Fabiilli, J. B. Fowlkes, K. K. Shung, Q. Zhou, P. L. Carson, and X. Wang, “Simultaneous viewing of individual cells and ambient microvasculature using optical absorption and fluorescence contrasts,” Mol. Imaging 12, 491–496 (2013)

53. **S.-L. Chen**, Z. Xie, L. J. Guo, and X. Wang, “A fiber-optic system for dual-modality photoacoustic microscopy and confocal fluorescence microscopy using miniature components,” Photoacoustics 1, 30–35 (2013)

54. **S.-L. Chen**, Z. Xie, T. Ling, L. J. Guo, X. Wei, and X. Wang, “Miniaturized all-optical photoacoustic microscopy based on microelectromechanical systems mirror scanning,” Opt. Lett. 37, 4263–4265 (2012)

55. B.-Y. Hsieh, **S.-L. Chen**, T. Ling, L. J. Guo, and P.-C. Li, “All-optical scanhead for ultrasound and photoacoustic dual-modality imaging,” Opt. Express 20, 1588–1596 (2012)

56. **S.-L. Chen**, Z. Xie, P. L. Carson, X. Wang, L. J. Guo, “In vivo flow speed measurement of capillaries by photoacoustic correlation spectroscopy,” Opt. Lett. 36, 4017–4019 (2011)

57. T. Ling, **S.-L. Chen**, and L. J. Guo, “High-sensitivity and wide-directivity ultrasound detection using high Q polymer micro-ring resonators,” Appl. Phys. Lett. 98, 204103 (2011)

58. **S.-L. Chen**, T. Ling, and L. J. Guo, “Low-noise small size microring ultrasonic detectors for high resolution photoacoustic imaging,” J. of Biomed. Opt. 16, 056001 (2011)

59. Z. Xie, **S.-L. Chen**, T. Ling, L. J. Guo, P. L. Carson, X. Wang, “Pure optical photoacoustic microscopy,” Opt. Express 19, 9027–9034 (2011)

60. T. Ling, **S.-L. Chen**, and L. J. Guo, “Fabrication and characterization of high Q polymer micro-ring resonator and its application as a sensitive ultrasonic detector,” Opt. Express 19, 861–869 (2011)

61. H. W. Baac, J. G. Ok, H. J. Park, T. Ling, **S.-L. Chen**, A. J. Hart, and L. J. Guo, "Carbon nanotube composite optoacoustic transmitters for strong and high frequency ultrasound generation," Appl. Phys. Lett. 97, 234104 (2010)

62. B.-Y. Hsieh, **S.-L. Chen**, T. Ling, L. J. Guo, and P.-C. Li, "Integrated intravascular ultrasound and photoacoustic imaging scan head," Opt. Lett. 35, 2892–2894 (2010)

63. **S.-L. Chen**, T. Ling, S.-W. Huang, H. W. Baac, and L. J. Guo, "Photoacoustic correlation spectroscopy and its applications to low speed flow measurement," Opt. Lett. 35, 1200–1202 (2010)

64. **S.-L. Chen**, S.-W. Huang, T. Ling, S. Ashkenazi, and L. J. Guo, "Polymer microring resonators for high-sensitivity and wideband photoacoustic imaging," IEEE Trans. Ultrason., Ferroelectr., Freq. Control. 56, 2482–2491 (2009)

65. S.-W. Huang, **S.-L. Chen**, T. Ling, A. Maxwell, M. O'Donnell, L. J. Guo, and S. Ashkenazi, "Low-noise wideband ultrasound detection using polymer microring resonators," Appl. Phys. Lett. 92, 193509 (2008)

B. Editor-Reviewed Conference Proceedings

(* denotes the corresponding author; [ ] denotes equal contributions)

2020

1. [H. Liu, Y. Zhao], S.-H. Bo*, and **S.-L. Chen***, "Application of photoacoustic imaging for lithium metal batteries," Proc. SPIE 11549, Advanced Optical Imaging Technologies III, 115490U; SPIE/COS Photonics Asia (10 October 2020). https://doi.org/10.1117/12.2575184

2. [F. Feng, S. Liang], and **S.-L. Chen***, "Super-resolution acoustic-resolution photoacoustic microscopy by a novel algorithm," Proc. SPIE 11553, Optics in Health Care and Biomedical Optics X, 1155306; SPIE/COS Photonics Asia (10 October 2020). https://doi.org/10.1117/12.2574164

2019

3. W. Yang, P. K. Srivastava, S. Han, L. Jing, C.-C. Tu*, and **S.-L. Chen***, "A cost-effective time-gated fluorescence imaging system and its bioimaging applications," Proc. SPIE 11190, 111901U; Photonics Asia (2019)

4. G. Li, Z. Guo, **S.-L. Chen***, "All-optical forward-view photoacoustic endoscopy," Proc. SPIE 10931, 1093111 (2019)

5. T. T. T. Wong, D. Cai, L. Zhu, J. Shi, **S.-L. Chen**, and L. V. Wang*, "Quantitative cell nuclear imaging by dual-view optical-resolution photoacoustic microscopy," Proc. SPIE 10878, 108780R (2019)

2018

6. G. Li, Z. Guo, **S.-L. Chen***, "Miniature all-optical probe for photoacoustic and ultrasound dual-modality imaging," Proc. SPIE 10494, 104943V (2018)

7. [Z. Guo, J. Wang, Z. Li], Y. Hu, J. Wu* and **S.-L. Chen***, "A 2.8-mm-diameter scanhead for multispectral photoacoustic microscopy and optical coherence tomography," Proc. SPIE 10494, 1049456 (2018)

2017

8. X. Zhou, D. Cai, X. He, **S.-L. Chen**, X. Wang, and T. Yang*, "Ultrasound detection with surface plasmon resonance on fiber end-facet," CLEO, SM1C.3 (2017)

9. D. Cai, Z. Li, Y. Li, Z. Guo, and **S.-L. Chen***, "Combined synthetic aperture focusing technique and three-dimensional deconvolution for resolution enhancement in photoacoustic microscopy," Proc. SPIE 10064, 1006427 (2017)

2015

10. D. Cai, Z. Li, and **S.-L. Chen***, "Scanning mirror-based photoacoustic microscopy with synthetic aperture focusing technique," OECC: Biomedical Optics, JTuB.43, Shanghai, China, Jun. (2015)

2014

11. **S.-L. Chen**, C. Zhang, Y.-C. Chang, J. G. Ok, T. Ling, M. T. Mihnev, T. B. Norris, and L. J. Guo*, "Efficient Real-time Detection of Terahertz Pulse Radiation by "Listening to" Photoacoustic Generation," Frontiers in Optics 2014, paper LTh4I.1 (2014)

12. C. Zhang, T. Ling, **S.-L. Chen**, and L. J. Guo*, "Ultra-broad bandwidth ultrasound detector using imprinted polymer microring resonator," in CLEO, paper SM2H.6. (2014)

13. Z. Xie, C. Tian, **S.-L. Chen**, T. Ling, C. Zhang, L. J. Guo, P. L. Carson, X. Wang*, "3D high resolution photoacoustic imaging based on pure optical photoacoustic microscopy with microring resonator," Proc. SPIE 8943, 894314 (2014)

14. **S.-L. Chen**, Z. Xie, L. J. Guo, and X. Wang*, "Prototype study on a miniaturized dual-modality imaging system for photoacoustic microscopy and confocal fluorescence microscopy," Proc. SPIE 8943, 89430B (2014)

15. **S.-L. Chen**, J. Burnett, D. Sun, Z. Xie, X. Wang*, "Photoacoustic microscopy for quantitative evaluation of angiogenesis inhibitor," Proc. SPIE 8943, 89433S (2014)

Before 2013

16. **S.-L. Chen**, Z. Xie, T. Ling, X. Wei, L. J. Guo, X. Wang, "All-optical photoacoustic microscopy using a MEMS scanning mirror," Proc. SPIE 8581, 85812G (2013)

17. Z. Xie, **S.-L. Chen**, M. L. Fabiilli, J. B. Fowlkes, K. K. Shung, Q. Zhou, X. Wei, P. L. Carson, X. Wang, "Viewing individual cells and ambient microvasculature using two molecular contrasts," Proc. SPIE 8581, 85813G (2013)

18. B.-Y. Hsieh, **S.-L. Chen**, T. Ling, L. J. Guo, and P.-C. Li, "All-optical transducer for ultrasound and photoacoustic imaging by dichroic filtering," 2012 IEEE International Ultrasonics Symposium Proceedings (2012)

19. Z. Xie, **S.-L. Chen**, T. Ling, L. J. Guo, P. L. Carson, and X. Wang, "3D high-resolution pure optical photoacoustic microscopy," Proc. SPIE 8223, 82230W (2012)

20. **S.-L. Chen**, Z. Xie, P. L. Carson, X. Wang, and L. J. Guo, "Photoacoustic correlation spectroscopy for in vivo blood flow speed measurement," Proc. SPIE 8223, 82230O (2012)

21. **S.-L. Chen**, T. Ling, L. J. Guo, "Polymer microring resonators for high sensitivity, broadband, wide-directivity ultrasound detection and high-resolution imaging," Proc. SPIE 8236, 82361D (2012) (Invited paper)

22. **S.-L. Chen**, T. Ling, H. W. Baac, and L. J. Guo, "Photoacoustic endoscopy using polymer microring resonators," Proc. SPIE 7899, 78992T (2011)

23. Y. Guo, H. W. Baac, **S.-L. Chen**, T. B. Norris, and L. Jay Guo, "Broad-band high-efficiency optoacoustic generation using a novel photonic crystal-metallic structure," Proc. SPIE 7899, 78992C (2011)
24. B.-Y. Hsieh, **S.-L. Chen**, T. Ling, L. J. Guo, and P.-C. Li, "Design and fabrication of an integrated intravascular ultrasound/photoacoustic scan head," Proc. SPIE 7564, 756409 (2010)
25. **S.-L. Chen**, T. Ling, S.-W. Huang, H. W. Baac, Y.-C. Chang, and L. J. Guo, "Photoacoustic correlation technique for low-speed flow measurement," Proc. SPIE 7564, 75642I (2010)
26. T. Ling, **S.-L. Chen**, and L. J. Guo, "High Q-factor small size polymer micro-ring resonators for high-frequency ultrasound detection," 53nd International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication, Marco Island, FL., May 26-29 (2009)
27. **S.-L. Chen**, S.-W. Huang, T. Ling, S. Ashkenazi, and L. J. Guo, "Wideband photoacoustic tomography using polymer microring resonators," Proc. SPIE 7177, 71772B (2009)
28. L. J. Guo, S.-W. Huang, **S.-L. Chen**, T. Ling, A. Maxwell, S. Ashkenazi, "Low-noise, high-frequency ultrasound detection using polymer microring photonic resonators," IEEE Ultrasound Symposium, Beijing, China, November 2-5 (2008)
29. S.-W. Huang, **S.-L. Chen**, T. Ling, A. Maxwell, S. Ashkenazi, and L. J. Guo, "Optical detection of high-frequency ultrasound using polymer microring resonators," 1st International Symposium on Laser Ultrasonics: Science, Technology and Applications (2008)
30. Y.-H. Wang, **S.-L. Chen**, Y.-T. Tsai, and P.-C. Li, "Applications for photoacoustic imaging with a fiber-integrated 20MHz photoacoustic transducer," Symposium of Annual Conference of the Biomedical Engineering Society, Taichung, Taiwan, R.O.C., December (2007)
31. W.-S. Wang, M.-C. Lee, **S.-L. Chen**, and W.-H. Hsu, "Titanium-in-diffused lithium niobate blue laser waveguides," in Proc. CLEO/Pacific Rim, paper CTuK1-4 (2005)

B.2 Conference Presentations with Abstract

1. "Photoacoustic microscopy: Technology development and applications," The 4th National Conference on Optoelectronics, Photonic Materials and Devices. Qingdao, China. (Oct. 2023)
2. "Photoacoustic microscopy: Technology development and applications," 2023 Conference of the Chinese Optical Society. Wuhan, China. (Jul. 2023) [**invited**]
3. "Photoacoustic microscopy: Technology development and applications," 2023 China Biomedical Engineering Conference & Medical Innovation Summit. Suzhou, China. (May 2023)
4. "Photoacoustic microscopy: Technology development and applications," The 16th International Conference on Photonics and Imaging in Biology and Medicine (PIBM). Haikou, China. (Mar. 2023) [**invited**]

5. "Development of non-contact photoacoustic microscopy," The 15th International Conference on Photonics and Imaging in Biology and Medicine (PIBM). Haikou, China. (Dec. 2021) [**invited**]
6. "Development of non-contact photoacoustic microscopy," 2021 Conference of the Chinese Optical Society. Shenzhen, China (Sep. 2021)
7. "Technology development of non-contact photoacoustic microscopy," 2021-2022 China Biomedical Engineering Conference & Medical Innovation Summit. Online (Apr. 2021)
8. "Photoacoustic microscopy: Technology development and biomedical applications," 2020 China Biomedical Engineering Conference. Beijing, China (online) (Nov. 2020) [**invited**]
9. "Photoacoustic microscopy: Miniature probes and applications," 2019 International Conference on Molecular Imaging and Minimally Invasive Therapy. Beijing, China (Oct. 2019) [**invited**]
10. Z. Guo, Z. Li, Y. Deng, and **S.-L. Chen***, "Exploring LPS-induced sepsis in mice as a model to study photoacoustic microscopy for sepsis evaluation," Optics and Photonics Taiwan, International Conference (OPTIC). Biophotonics and Biomedical Imaging: Biophotonics and Biomedical Imaging IV. Tainan, Taiwan (Dec. 2018)
11. G. Li, Z. Guo, and **S.-L. Chen***, "Wide-field forward-viewing photoacoustic endoscopy using a fiber bundle," Progress In Electromagnetics Research Symposium (PIERS). 2A6: Biomedical Imaging and Sensing Involving both Light and Ultrasound 2. Toyama, Japan (Aug. 2018) [**Invited**]
12. Z. Guo, G. Li, and **S.-L. Chen***, "Miniature scan head for all-optical optical-resolution photoacoustic microscopy," Optics and Photonics Taiwan, International Conference (OPTIC). Biophotonics and Biomedical Imaging: Imaging & Microscopy II. Kaohsiung, Taiwan (Dec. 2017).
13. T. Yang*, X. He, X. Zhou, Z. Lei, J. Yang, Y. Wang, D. Cai, **S.-L. Chen**, and X. Wang, "SPR Cavities on Optical Fiber End-facets and Applications in Biomolecule and Ultrasound Sensing," Progress In Electromagnetics Research Symposium (PIERS), Singapore, SC3: Label-free optical Nanobiosensors for Bio-diagnostics, Environmental Monitoring and Food Safety (2017).
14. "Photoacoustic imaging: Algorithms and probes," 2017 Conference of the Chinese Optical Society. Changchun, Jilin, China. (Aug. 2017) [**invited**]
15. "Miniature imaging head for integrated optical- and acoustic-resolution photoacoustic microscopy," in Youth Scholar Workshop, 2017 China Biomedical Engineering Conference & Medical Innovation Summit. Beijing, China (Apr. 2017) [**invited**]
16. G. Li, Z. Guo, and **S.-L. Chen***, "Design of all-optical photoacoustic-ultrasonic dual-mode endoscopic probe based on single-pulse laser," National Conference on Testing Acoustics and Physical Acoustics. Kunming, China (2016).
17. Z. Li, D. Cai, Z. Guo, and **S.-L. Chen***, "Design of photoacoustic microendoscope with integrated optical and acoustic resolution," National Conference on Testing Acoustics and Physical Acoustics. Kunming, China (2016).
18. D. Cai, Z. Li, Y. Li, Z. Guo, and **S.-L. Chen***, "Three-dimensional deconvolution and synthetic aperture focusing technique for photoacoustic microscopy," National Conference on Testing Acoustics and Physical Acoustics. Kunming, China (2016).

19. G. Li, Z. Guo, and **S.-L. Chen**, “All-optical photoacoustic-ultrasound endoscopic probe using single Laser pulses,” in The 8th International Conference on Information Optics and Photonics (CIOP): Session 2: Optical Fiber Sensing Technology (2016)
20. 2015 National conference on testing acoustics. Changzhou, Jiangsu, China (Oct. 2015) [**invited**]
21. International Conference on Biomedical Ultrasound. National Taiwan University, Taipei, Taiwan (Oct. 2013) [**invited**]

C. Book Chapters

1. **S.-L. Chen*** and L. J. Guo, “Terahertz Pulse Detection Techniques and Imaging Applications”, Chapter 11 of the book - Terahertz Spectroscopy - Cutting Edge Technology (2017)

D. Invited Presentations

1. Invited seminar (online), “Photoacoustic microscopy: Technology development and applications,” Engineering Research Center of Digital Medicine and Clinical Translation, Ministry of Education. Shanghai, China (May 2022)
2. Invited talk (online), “Photoacoustic microscopy: Technology development and applications,” 2021 GIST-International Biomedical Science and Engineering Symposium (GIBSES). Gwangju, Korea (Nov. 2021)
3. Invited lecture (online), “Photoacoustic Imaging: Technology advancement and applications,” Europhotonics Spring School 2021. Marseille, France (Mar. 2021)
4. Invited seminar. University of Science and Technology of China, Anhui, China (Dec. 2020)
5. Invited talk, “Photoacoustic microscopy: Resolution-enhancement algorithms, miniature probes, and imaging applications,” Biophotonics Workshop. Shanghai Jiao Tong Univ., Shanghai, China (Dec. 2019)
6. Invited talk, “Photoacoustic imaging: Resolution-enhancement algorithms, miniature probes for microscopy, and biomedical and industrial applications,” 2019 Photoacoustic Imaging Forum. Tongji Univ., Shanghai, China (Jun. 2019)
7. Invited talk, “Photoacoustic imaging: Technology development and applications,” GIST-International Biomedical Science and Engineering Symposium (GIBSES). Gwangju, Korea (Jun. 2019)
8. Invited lecture, “Photoacoustic Imaging: Technology and applications,” Europhotonics Spring School 2019. Marseille, France (Apr. 2019)
9. Invited talk, “Photoacoustic imaging: algorithms and probes,” 2nd Panji Workshop. Weihai, Shandong, China (Nov. 2017)
10. Invited talk, “Photoacoustic imaging: algorithms and probes,” Panji Workshop. Weihai, Shandong, China (Jun. 2017)
11. Invited seminar, Fudan University Institutes of Brain Science. Shanghai, China (Mar. 2016)
12. Colloquia. Zhiyuan College, Shanghai Jiao Tong University, Shanghai, China (Dec. 2014)
13. Invited Seminar. Tongji University, Shanghai, China (Oct. 2013)

14. Workshop for UM-SJTU Joint Lab on Multimodal Biomedical Imaging. Shanghai Jiao Tong University, Shanghai, China (Oct. 2013)

E. Patents (unpublished ones are not disclosed)

1. **S.-L. Chen**, J. Zhou, A non-contact miniature photoacoustic probe and its imaging setup, granted (2022) China patent. CN113670824B. Date granted: 2022-08-19.
2. **S.-L. Chen**, S.-H. Bo, H Liu, Y. Zhao, A three-dimensional imaging method for visualizing dendrites in lithium metal batteries by using photoacoustic imaging, granted (2021) China patent. CN110398461B. Date granted: 2021-07-27.
3. **S.-L. Chen**, Z. Guo, Z. Ye, Manufacturing of a focus-adjustable photoacoustic microendoscope, granted (2021) China patent. CN110537898B. Date granted: 2021-06-04.

F. Publications in popular press/magazines

1. *[Media Coverage]* July, 2019 X-MOL: High performance optomechanical time-gated fluorescence imaging based on long-lived silicon quantum dot nanoparticle probes (https://www.x-mol.com/news/18083) [in Chinese]
2. *[Media Coverage]* December, 2018 Advances in Engineering News: Miniaturization of optical- and acoustic-resolution photoacoustic microscopy scan head for scalable resolution and depth in endoscopy (https://advanceseng.com/miniaturization-optical-acoustic-resolution-photoacoustic-microscopy-scan-head/)
3. **S.-L. Chen**, Y.-C. Chang, C. Zhang, J. G. Ok, T. Ling, M. T. Mihnev, T. B. Norris, and L. J. Guo, “Efficient real-time detection of terahertz pulse radiation based on photoacoustic conversion by carbon nanotube nanocomposite,” Nature Photon. **8**, 537–542 (2014)
   Reported by
   “Small, Simple Terahertz Detector Converts The Pulses To Sound,” IEEE Spectrum (http://spectrum.ieee.org/tech-talk/semiconductors/optoelectronics/small-simple-terahertz-detector-converts-the-pulses-to-sound)
   “Found: A Sound Solution To Terahertz Detection,” Radiology Daily (http://www.radiologydaily.com/daily/abdominal-imaging/found-a-sound-solution-to-terahertz-detection/)
   “New 'T-ray' tech converts light to sound for weapons detection, medical imaging,”Science Daily (http://www.sciencedaily.com/releases/2014/05/140522150503.htm)
   “New Method for THz Detection and Imaging,” Optics and Photonics News (http://www.osa-opn.org/home/articles/volume_25/december_2014/extras/new_method_for_thz_detection_and_imaging/#.Vk5_btIrKM8)