

Prodigy Ultrasound System for Engineering Research

References

1. Iyer, A., Ganesh, V., Singh, M., Filer, W., Cleveland, C., & Sharma, N. (2025). Enhancing Hybrid Exoskeleton Performance With Spatially Distributed Asynchronous Stimulation and Ultrasound Imaging-Based Fatigue Measurements. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 33, 2542–2555. <https://doi.org/10.1109/TNSRE.2025.3578776>
2. Iyer, A., Xue, X., Ganesh, V., Jiang, X., Gallippi, C., Roque, D., & Sharma, N. (2025). Ultrasound Imaging Triggered Tremor Suppression With Personalized Afferent Stimulation Frequency. *IEEE Transactions on Biomedical Engineering*, 72(5), 1720–1730. <https://doi.org/10.1109/TBME.2024.3519628>
3. Li, G., Lei, Z., Han, Y., Yuan, Z., Yu, Z., & Sun, M. (2025). Muscle injury detection based on ultrasound/photoacoustic dual-mode shear wave elastography. <https://doi.org/10.1117/12.3074209>, 13799, 819–830. <https://doi.org/10.1117/12.3074209>
4. Liu, Y., Wang, Y., Chirarattananon, P., & Tang, J. (2025). Adaptive Color Doppler for Axial Velocity Imaging of Microvessel Networks. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 72(6), 709–720. <https://doi.org/10.1109/TUFFC.2025.3559238>
5. Wang, Y., Chen, W., He, Y., & Tang, J. (2025). Angle-Independent Blood Flow Velocity Measurement With Ultrasound Speckle Decorrelation Analysis. *IEEE Transactions on Medical Imaging*, 44(5), 2283–2294. <https://doi.org/10.1109/TMI.2025.3529033>
6. Wang, Y., Liu, Y., Liu, X., Zhang, Y., Li, W., He, Y., & Tang, J. (2025). Adaptive Singular Value Decomposition-Based Hyperecho Suppression for Diagnostic Power Doppler Ultrasound Image Processing. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 72(9), 1213–1221. <https://doi.org/10.1109/TUFFC.2025.3590025>
7. Zhang, Q., Hakam, N., Akinniyi, O., Iyer, A., Bao, X., & Sharma, N. (2024). AnkleImage - An ultrafast ultrasound image dataset to understand the ankle joint muscle contractility. *Scientific Data*, 11(1), 1–15. <https://doi.org/10.1038/S41597-024-04285-X;SUBJMETA>
8. Shen, W.-H., Yeh, T.-M., Liao, M.-Y., & Li, L. (2024). Ultrasound B-mode Visualization of Imperceptible Subwavelength Vibration in Magnetomotive Ultrasound Imaging. <https://doi.org/10.20944/preprints202405.0631.v1>

9. Ma, Y., Ma, L., Han, Y., Zhang, L., Qin, Z., & Sun, M. (2024). An ultrasound and photoacoustic dual-mode temperature imaging method and system based on EM-UNet deep learning network. IEEE Ultrasonics, Ferroelectrics, and Frequency Control Joint Symposium, UFFC-JS 2024 - Proceedings. <https://doi.org/10.1109/UFFC-JS60046.2024.10793985>
10. Iyer, A., Sun, Z., Lambeth, K., Singh, M., Cleveland, C., & Sharma, N. (2024). Real-time Ultrasound Imaging of a Human Muscle to Optimize Shared Control in a Hybrid Exoskeleton. IEEE Transactions on Robotics. <https://doi.org/10.1109/TRO.2024.3443668>
11. Han, M., Zheng, H., Gao, Y., Zhou, Z., & Liu, X. (2024). Detection of near-surface defects in viscoelastic material based on focused ultrasound thermal effects. Ultrasonics, 143, 107415. <https://doi.org/10.1016/j.ULTRAS.2024.107415>
12. Lai, K.-L., & Li, P.-C. (2024). Correlations between ultrafast power Doppler perfusion imaging variables and clinical disease activity in rheumatoid arthritis: potential applications for diagnosing and treating patients in deep clinical remission. Ultrasonography, 43(6), 478. <https://doi.org/10.14366/USG.24095>
13. Lai, K.-L., Tsai, M.-C., & Li, P.-C. (2024). Ultrafast Doppler Imaging for Early Detection of Synovitis in Rheumatoid Arthritis. Ultrasound in Medicine & Biology. <https://doi.org/10.1016/j.ultrasmedbio.2023.12.007>
14. Lambeth, K., Iyer, A., & Sharma, N. (2024). Quantifying Functional Electrical Stimulation-Induced Fatigue via Ultrasound for Hybrid Neuroprosthesis-Based Walking. Proceedings of the IEEE RAS and EMBS International Conference on Biomedical Robotics and Biomechatronics, 1617–1622. <https://doi.org/10.1109/BIOROB60516.2024.10719933>
15. Li, Z., Huang, M., Li, Y., Wang, Y., Ma, Y., Ma, L., Jiang, H., Ngai, T., Tang, J., & Guo, Q. (2024). Emulsion-Based Multi-Phase Integrated Microbeads with Inner Multi-Interface Structure Enable Dual-Modal Imaging for Precision Endovascular Embolization. Advanced Healthcare Materials, 2400281. <https://doi.org/10.1002/ADHM.202400281>
16. Liu, Y., Shi, R., Li, G., & Sun, M. (2024). Photoacoustic elastography based on laser-excited shear wave. Journal of Innovative Optical Health Sciences, 17(3), 17. <https://doi.org/10.1142/S1793545823500311/ASSET/IMAGES/LARGE/S1793545823500311FIG16.JPG>
17. Ma, Y., Ma, L., Han, Y., Zhang, L., Qin, Z., & Sun, M. (2024). An ultrasound and photoacoustic dual-mode temperature imaging method and system based on EM-UNet deep learning network. 2024 IEEE Ultrasonics, Ferroelectrics, and Frequency Control Joint Symposium (UFFC-JS), 1–6. <https://doi.org/10.1109/UFFC-JS60046.2024.10793985>
18. Moon, S., Xue, X., Ganesh, V., Shukla, D., Kreager, B. C., Cai, Q., Wu, H., Zhu, Y., Sharma, N., & Jiang, X. (2024). Ultrasound-Compatible Electrode for Functional Electrical Stimulation. Biomedicines 2024, Vol. 12, Page 1741, 12(8), 1741. <https://doi.org/10.3390/BIOMEDICINES12081741>

19. Qin, Z., Lai, P., & Sun, M. (2024). Photoacoustic thermal-strain measurement towards noninvasive and accurate temperature mapping in photothermal therapy. *Photoacoustics*, 40, 100651. <https://doi.org/10.1016/j.PACS.2024.100651>
20. Shen, C. C., & Wu, N. H. (2024). Ultrasound Monitoring of Simultaneous high-intensity focused ultrasound (HIFU) therapy using minimum-peak-sidelobe coded excitation. *Ultrasonics*, 138, 107224. <https://doi.org/10.1016/j.ULTRAS.2023.107224>
21. Wang, Y., He, Y., Chen, W., Tan, J., & Tang, J. (2024). Ultrasound Speckle Decorrelation Analysis-Based Velocimetry for 3D-Velocity-Components Measurement Using a 1D Transducer Array. *Advanced Science*, 11(32), 2401173. <https://doi.org/10.1002/ADVS.202401173>
22. Xue, X., Moon, S., Ganesh, V., Cai, Q., Patel, A., Sharma, N., & Jiang, X. (2024). Advancing Muscle Monitoring and Intervention: Wearable Ultrasound for Tremor Frequency Measurement and Real-Time Tissue Displacement Analysis. 2024 IEEE Ultrasonics, Ferroelectrics, and Frequency Control Joint Symposium (UFFC-JS), 1–4. <https://doi.org/10.1109/UFFC-JS60046.2024.10793528>
23. Fu, C., Hsieh, T.-T., & Liu, H.-L. (2023). A Dual-Mode Spherically Focused Theranostic Phased Array for CNS Application. 2023 IEEE International Ultrasonics Symposium (IUS), 1–4. <https://doi.org/10.1109/IUS51837.2023.10306537>
24. Ho, Y. J., Cheng, H. L., Liao, L. De, Lin, Y. C., Tsai, H. C., & Yeh, C. K. (2023). Oxygen-loaded microbubble-mediated sonoperfusion and oxygenation for neuroprotection after ischemic stroke reperfusion. *Biomaterials Research*, 27(1). <https://doi.org/10.1186/s40824-023-00400-y>
25. Ma, Y., Lei, Z., Wu, D., Shen, Y., & Sun, M. (2023). A neural network estimation model based light dose control method and system for low-temperature photothermal therapy. *Biomedical Signal Processing and Control*, 85. <https://doi.org/10.1016/j.bspc.2023.104935>
26. Ma, Y., Liu, Y., Qin, Z., Shen, Y., & Sun, M. (2023). Mild-temperature photothermal treatment method and system based on photoacoustic temperature measurement and control. *Biomedical Signal Processing and Control*, 79, 104056. <https://doi.org/10.1016/j.BSPC.2022.104056>
27. Nowakowska, M., Su, C.-H., Thangudu, S., Ma, Y., Liu, Y., Lei, Z., Qin, Z., Shen, Y., & Sun, M. (2023). Multi-Wavelength Photoacoustic Temperature Feedback Based Photothermal Therapy Method and System. *Pharmaceutics*, 15(2), 555. <https://doi.org/10.3390/PHARMACEUTICS15020555>
28. Qin, Z., Ma, Y., ma, lingyu, Liu, G., & Sun, M. (2023). Convolutional Sparse Coding for Compressed Sensing Photoacoustic CT reconstruction with partially known support. *Biomedical Optics Express*. <https://doi.org/10.1364/boe.507831>
29. Sharma, N., Xue, X., Iyer, A., Jiang, X., & Roque, D. (2023). Towards Ultrasound Imaging-based Closed-loop Peripheral Nerve Stimulation for Tremor Suppression. *Current Opinion in Biomedical Engineering*, 100484. <https://doi.org/10.1016/j.cobme.2023.100484>

30. Shen, C.-C., Chen, Y.-A., & Ku, H.-Y. (2023). Improved Source Localization in Passive Acoustic Mapping Using Delay-Multiply-and-Sum Beamforming with Virtually Augmented Aperture. *Ultrasonics*, 107125. <https://doi.org/10.1016/J.ULTRAS.2023.107125>
31. Xue, X., Iyer, A., Roque, D., & Sharma, N. (2023). Nonlinear System Identification of Tremors Dynamics: A Data-driven Approximation Using Koopman Operator Theory. 2023 11th International IEEE/EMBS Conference on Neural Engineering (NER), 1–4. <https://doi.org/10.1109/NER52421.2023.10123909>
32. Zhang, B., Cong, H., Shen, Y., & Sun, M. (2023). Visual Perception and Convolutional Neural Network Based Robotic Autonomous Lung Ultrasound Scanning Localization System. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 1–1. <https://doi.org/10.1109/TUFFC.2023.3263514>
33. Chen, Y. A., & Shen, C. C. (2022). Passive Cavitation Mapping using Delay-Multiply-and-Sum (DMAS) Beamforming with Virtually Augmented (VA) Aperture. *IEEE International Ultrasonics Symposium, IUS*, 2022-October. <https://doi.org/10.1109/IUS54386.2022.9958857>
34. Hsieh, B. Y., Kao, Y. C. J., Zhou, N., Lin, Y. P., Mei, Y. Y., Chu, S. Y., & Wu, D. C. (2022). Vascular responses of penetrating vessels during cortical spreading depolarization with ultrasound dynamic ultrafast Doppler imaging. *Frontiers in Neuroscience*, 16. <https://doi.org/10.3389/fnins.2022.1015843>
35. Li, Y., Li, Y., Zhang, S., Zhang, S., Wu, L., Wu, L., Cheng, Z., Cheng, Z., Zhang, Z., Zhang, Z., Wang, H., Wang, H., Zhao, S., Zhao, S., Ren, M., Ren, M., Yang, S., Yang, S., Xing, D., ... Qin, H. (2022). Polarization microwave-induced thermoacoustic imaging for quantitative characterization of deep biological tissue microstructures. *Photonics Research*, Vol. 10, Issue 5, Pp. 1297-1306, 10(5), 1297–1306. <https://doi.org/10.1364/PRJ.452968>
36. Lin, C. H., & Shen, C. C. (2022). Transmit Delay and Standard Deviation Beamforming to Enhance Specular Reflections in Synthetic Transmit Aperture Imaging. *IEEE International Ultrasonics Symposium, IUS*, 2022-October. <https://doi.org/10.1109/IUS54386.2022.9958559>
37. Liu, X., Gao, R., Chen, C., Li, X., Yu, C., Chen, Y., Liang, H., Xiao, M., Dai, L., Qiu, S., Xin, X., Song, L., Liu, J., Liu, C., & Xiu, J. (2022). Noninvasive photoacoustic computed tomography/ultrasound imaging to identify high-risk atherosclerotic plaques. *European Journal of Nuclear Medicine and Molecular Imaging*, 49(13), 4601–4615. <https://doi.org/10.1007/S00259-022-05911-9/FIGURES/8>
38. Shen, C. C., & Guo, F. T. (2022). Ultrasound Ultrafast Power Doppler Imaging with High Signal-to-Noise Ratio by Temporal Multiply-and-Sum (TMAS) Autocorrelation. *Sensors* 2022, Vol. 22, Page 8349, 22(21), 8349. <https://doi.org/10.3390/S22218349>
39. Shen, C. C., Lin, R. C., & Wu, N. H. (2022). Golay-Encoded Ultrasound Monitoring of Simultaneous High-Intensity Focused Ultrasound Treatment: A Phantom Study. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 69(4), 1370–1381. <https://doi.org/10.1109/TUFFC.2022.3153661>

40. Sheng, Z., Iyer, A., Sun, Z., Kim, K., & Sharma, N. (2022). A Hybrid Knee Exoskeleton Using Real-Time Ultrasound-Based Muscle Fatigue Assessment. *IEEE/ASME Transactions on Mechatronics*, 27(4), 1854–1862. <https://doi.org/10.1109/TMECH.2022.3171086>
41. Zhang, Q., Fragnito, N., Franz, J. R., & Sharma, N. (2022). Fused ultrasound and electromyography-driven neuromuscular model to improve plantarflexion moment prediction across walking speeds. *Journal of NeuroEngineering and Rehabilitation*, 19(1), 1–20. <https://doi.org/10.1186/S12984-022-01061-Z/TABLES/3>
42. Zhang, Q., Iyer, A., & Sharma, N. (2022). Ultrasound-Based Sensing and Control of Functional Electrical Stimulation for Ankle Joint Dorsiflexion: Preliminary Study. *Biosystems and Biorobotics*, 27, 307–311. https://doi.org/10.1007/978-3-030-69547-7_50/COVER
43. Cheng, Z., Wu, L., Qiu, T., Duan, Y., Qin, H., Hu, J., & Yang, S. (2021). An Excitation-Reception Collinear Probe for Ultrasonic, Photoacoustic, and Thermoacoustic Tri-Modal Volumetric Imaging. *IEEE TRANSACTIONS ON MEDICAL IMAGING*, 40(12). <https://doi.org/10.1109/TMI.2021.3089243>
44. Duan, Y., Cheng, Z., Qiu, T., Wen, L., Xiong, | Kedi, Xiong, K., & Key, G. P. (2021). Spherical-matching hyperbolic-array photoacoustic computed tomography. *J. Biophotonics*, 14. <https://doi.org/10.1002/jbio.202100023>
45. Herranen, J., Lazarian, A., Hoang -, T., Truong, B., Ngoc Tram, L., & Hoang, T. (2021). Stereoscopic photoacoustic imaging of radial artery for preoperative evaluation of coronary intervention. *Applied Physics Express*, 14(5), 052005. <https://doi.org/10.35848/1882-0786/ABF904>
46. Jeng, G.-S., Wang, Y.-A., Liu, P.-Y., & Li, P.-C. (2021). Laser-Generated Leaky Acoustic Wave Imaging for Interventional Guidewire Guidance. *IEEE TRANSACTIONS ON ULTRASONICS, FERROELECTRICS, AND FREQUENCY CONTROL*, 68(7). <https://doi.org/10.1109/TUFFC.2021.3069474>
47. Lee, C.-Y., Lok, U.-W., & Li, P.-C. (2021). Elevational motion estimation for 3D ultrasound with machine learning and a speckle generating gel pad. *Proceedings of SPIE*, 11792, 161–165. <https://doi.org/10.1117/12.2590727>
48. Lin, H. F., Liao, Y. H., & Li, P. C. (2021). Ultrafast Ultrasound-Derived Muscle Strain Measure Correlates with Carotid Local Pulse Wave Velocity in Habitual Resistance-Trained Individuals. *Applied Sciences*, 11(18), 8783. <https://doi.org/10.3390/APP11188783>
49. Ma, Y., Ma, L., Gao, Y., Sun Yiming Ma, M., & Sun, M. (2021). Intelligent photothermal treatment method based on photoacoustic and photothermal probe assistance. *Proceedings of SPIE*, 11781, 501–508. <https://doi.org/10.1117/12.2591313>
50. Ma, Y., & Sun, M. (2021). Closed-loop photothermal therapy system based on photoacoustic and ultrasonic dual-mode temperature feedback. *IEEE International Ultrasonics Symposium*. <https://doi.org/10.1109/IUS52206.2021.9593354>

51. Shen, C. C., & Chu, Y. C. (2021). DMAS Beamforming with Complementary Subset Transmit for Ultrasound Coherence-Based Power Doppler Detection in Multi-Angle Plane-Wave Imaging. *Sensors*, 21(14), 4856. <https://doi.org/10.3390/S21144856>
52. Shen, C.-C. (2021). Computationally efficient minimum-variance baseband delay-multiply-and-sum beamforming for adjustable enhancement of ultrasound image resolution. *Ultrasonics*, 112, 106345. <https://doi.org/10.1016/j.ultras.2020.106345>
53. Sheng, Z., Sharma, N., & Kim, K. (2021). Ultra-High-Frame-Rate Ultrasound Monitoring of Muscle Contractility Changes Due to Neuromuscular Electrical Stimulation. *Annals of Biomedical Engineering*, 49, 262–275. <https://doi.org/10.1007/s10439-020-02536-7>
54. Zhang, Q., Iyer, A., Kim, K., & Sharma, N. (2021). Evaluation of Non-Invasive Ankle Joint Effort Prediction Methods for Use in Neurorehabilitation Using Electromyography and Ultrasound Imaging. *IEEE Transactions on Biomedical Engineering*, 68(3), 1044–1055. <https://doi.org/10.1109/TBME.2020.3014861>
55. Iyer, A., Sheng, Z., Zhang, Q., Kim, K., & Sharma, N. (2020). Analysis of Tremor During Grasp Using Ultrasound Imaging: Preliminary Study. *IEEE International Conference on Biomedical Robotics and Biomechatronics (BioRob)*. https://doi.org/10.0/Linux-x86_64
56. Lin, H.-C., Fan, C.-H., Ho, Y.-J., & Yeh, C.-K. (2020). Dual-Frequency Chirp Excitation for Passive Cavitation Imaging in the Brain. *IEEE TRANSACTIONS ON ULTRASONICS, FERROELECTRICS, AND FREQUENCY CONTROL*, 67(6), 1127. <https://doi.org/10.1109/TUFFC.2020.2964786>
57. Lok, U. W., Lin, F. Y., Yeh, C. L., & Li, P. C. (2020). Correlation-based Doppler-angle estimation with plane-wave excitation. *Informatics in Medicine Unlocked*, 19. <https://doi.org/10.1016/j.IMU.2020.100315>
58. Shen, C. C., & Yang, J. E. (2020). Estimation of Ultrasound Echogenicity Map from B-Mode Images Using Convolutional Neural Network. *Sensors*, 20(17), 4931. <https://doi.org/10.3390/S20174931>
59. Sheng, Z., Sharma, N., & Kim, K. (2020). Quantitative Assessment of Changes in Muscle Contractility Due to Fatigue during NMES: An Ultrasound Imaging Approach. *IEEE Transactions on Biomedical Engineering*, 67(3), 832–841. <https://doi.org/10.1109/TBME.2019.2921754>
60. Tu, K. L., Shen, C. C., & Chu, Y. C. (2020). Ultrasound DMAS beamforming for estimation of tissue speed of sound in multi-angle plane-wave imaging. *IEEE International Ultrasonics Symposium, IUS*, 2020-September. <https://doi.org/10.1109/IUS46767.2020.9251759>
61. Xie, W. H., Su, C. T., Kao, Y. C. J., Chang, T. H., Chang, Y. J., Yao, C. H., & Hsieh, B. Y. (2020). Technical Note: Radiotherapy dose characterization of gel dosimetry using shear wave elasticity imaging. *Medical Physics*, 47(3), 1404–1410. <https://doi.org/10.1002/MP.14020>
62. Yang, J.-E., Shen, C.-C., & Lin, R.-C. (2020). Estimation of ultrasound echogenicity map from B-mode images using convolutional neural network; Estimation of ultrasound echogenicity map from B-

- mode images using convolutional neural network. IEEE.
<https://doi.org/10.1109/IUS46767.2020.9251596>
63. Zhang, Q., Iyer, A., Kim, K., & Sharma, N. (2020). Volitional Contractility Assessment of Plantar Flexors by Using Non-invasive Neuromuscular Measurements; Volitional Contractility Assessment of Plantar Flexors by Using Non-invasive Neuromuscular Measurements. IEEE RAS/EMBS International Conference for Biomedical Robotics and Biomechatronics (BioRob).
https://doi.org/10.0/Linux-x86_64
64. Zhang, Q., Kim, K., Sharma, N., Zhang, Q., & Sharma, N. (2020). Prediction of Ankle Dorsiflexion Moment by Combined Ultrasound Sonography and Electromyography; Prediction of Ankle Dorsiflexion Moment by Combined Ultrasound Sonography and Electromyography. IEEE TRANSACTIONS ON NEURAL SYSTEMS AND REHABILITATION ENGINEERING, 28(1).
<https://doi.org/10.1109/TNSRE.2019.2953588>
65. Kao, Y.-C. J., & Hsieh, B.-Y. (2019). Monitoring of Vascular Response to Peri-Infarct Depolarization (PID) in Photothrombotic Stroke Animal Model; Monitoring of Vascular Response to Peri-Infarct Depolarization (PID) in Photothrombotic Stroke Animal Model. IEEE International Ultrasonics Symposium (IUS). https://doi.org/10.0/Linux-x86_64
66. Lai, G.-H., Li, P.-C., & Shen, C.-C. (2019). Golay-Encoded Pulse-Inversion Subtraction for Real-Time Ultrasound Monitoring of HIFU Therapy; Golay-Encoded Pulse-Inversion Subtraction for Real-Time Ultrasound Monitoring of HIFU Therapy. IEEE International Ultrasonics Symposium (IUS).
https://doi.org/10.0/Linux-x86_64
67. Liu, W. W., Huang, S. H., & Li, P. C. (2019). Synchronized Optical and Acoustic Droplet Vaporization for Effective Sonoporation. *Pharmaceutics*, 11(6), 279.
<https://doi.org/10.3390/PHARMACEUTICS11060279>
68. Liu, Y., Sun, M., Liu, T., Ma, Y., Hu, D., Li, C., & Feng, N. (2019). Quantitative Reconstruction of Absorption Coefficients for Photoacoustic Tomography. *Applied Sciences*, 9(6), 1187.
<https://doi.org/10.3390/APP9061187>
69. Shen, C.-C., & Hsieh, P.-Y. (2019a). A Flexible Speckle Reduction Strategy using Thomson's Multitaper in High-order DMAS Beamforming; A Flexible Speckle Reduction Strategy using Thomson's Multitaper in High-order DMAS Beamforming. 2019 IEEE International Ultrasonics Symposium (IUS). https://doi.org/10.0/Linux-x86_64
70. Shen, C.-C., & Hsieh, P.-Y. (2019b). Ultrasound Baseband Delay-Multiply-and-Sum (BB-DMAS) nonlinear beamforming. *Ultrasonics*, 96, 165–174. <https://doi.org/10.1016/j.ultras.2019.01.010>
71. Shen, W. H., & Li, M. L. (2019). Toward Real Time Backward-Mode Pulsed Magnetomotive Ultrasound. IEEE International Ultrasonics Symposium, IUS, 2019-October, 396–398.
<https://doi.org/10.1109/ULTSYM.2019.8926244>
72. Wang, H. W., Huang, C. C., & Li, M. L. (2019). Improved Backward Mode Pulsed Magnetomotive Ultrasound via Pre-magnetization of Superparamagnetic Iron Oxide Nanoparticles. IEEE

- International Ultrasonics Symposium, IUS, 2019-October, 2387–2389.
<https://doi.org/10.1109/ULTSYM.2019.8925878>
73. Zhang, Q., Sheng, Z., Moore-Clingenpeel, F., Kim, K., & Sharma, N. (2019). Ankle Dorsiflexion Strength Monitoring by Combining Sonomyography and Electromyography; Ankle Dorsiflexion Strength Monitoring by Combining Sonomyography and Electromyography. IEEE 16th International Conference on Rehabilitation Robotics (ICORR).
 74. Zhang, W., Li, J., & Yang, S. (2019). Real-time interleaved photoacoustic and ultrasound imaging for guiding interventional procedures. *Applied Acoustics*, 156, 1–6.
<https://doi.org/10.1016/j.apacoust.2019.06.028>
 75. Zhou, N., Kao, Y.-C. J., Mei, Y.-Y., Lin, Y.-P., Wu, D.-C., & Hsieh, B.-Y. (2019). Detection of KCl Induced Cortical Spreading Depolarization (CSD) with Dynamic Ultrafast Doppler; Detection of KCl Induced Cortical Spreading Depolarization (CSD) with Dynamic Ultrafast Doppler. IEEE International Ultrasonics Symposium (IUS). https://doi.org/10.0/Linux-x86_64
 76. Kao, Y.-C. J., & Hsieh, B.-Y. (2018). Ultrafast Doppler Observation in Rat Stroke Model-Comparison with High Field Magnetic Resonance Imaging; Ultrafast Doppler Observation in Rat Stroke Model-Comparison with High Field Magnetic Resonance Imaging. IEEE International Ultrasonics Symposium (IUS).
 77. Li, M., Liu, C., Gong, X., Zheng, R., Bai, Y., Xing, M., Du, X., Liu, X., Zeng, J., Lin, R., Zhou, H., Wang, S., Lu, G., Zhu, W., Fang, C., & Song, A. L. (2018). Linear array-based real-time photoacoustic imaging system with a compact coaxial excitation handheld probe for noninvasive sentinel lymph node mapping. *Biomedical Optics Express*, 9(4), 1408–1422. <https://doi.org/10.1364/BOE.9.001408>
 78. Liu, R., Xiang, L., & Xing, D. (2018). Large depth focus-tunable photoacoustictomography based on clinical ultrasoundarray transducer. *Appl. Phys. Lett*, 113, 141102.
<https://doi.org/10.1063/1.5040565>
 79. Lok, U.-W., & Li, P.-C. (2018). Microbeamforming With Error Compensation. *IEEE TRANSACTIONS ON ULTRASONICS, FERROELECTRICS, AND FREQUENCY CONTROL*, 65(7), 1153.
<https://doi.org/10.1109/TUFFC.2018.2834411>
 80. Shen, C.-C., Hsiao, S.-H., & Lin, Y.-C. (2018). Synthetic transmit aperture beamforming for sound velocity estimation using channel-domain differential phase gradient-A phantom study. *Ultrasonics*, 94, 183–191. <https://doi.org/10.1016/j.ultras.2018.09.013>
 81. Wu, K. W., Wang, Y. A., & Li, P. C. (2018). Laser Generated Leaky Acoustic Waves for Needle Visualization. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 65(4), 546–556. <https://doi.org/10.1109/TUFFC.2018.2799725>
 82. Lu, M. C., Hough, J. Y., & Li, M. L. (2017). Backward-mode ultrafast pulsed magnetomotive ultrasound. IEEE International Ultrasonics Symposium, IUS.
<https://doi.org/10.1109/ULTSYM.2017.8091978>

83. Naizhang, F., Ying, F., Tong, W., & Mingjian, S. (2017). Photoacoustic Elasticity Imaging for Soft Tissue-mimicking Phantom. International Conference on Photonics and Imaging in Biology and Medicine, Part F70-PIBM 2017, W3A.117. <https://doi.org/10.1364/PIBM.2017.W3A.117>
84. Shen, C.-C., & Yang, H.-C. (2017). Adaptive optimization of ultrasound beamforming sound velocity using sub-aperture differential phase gradient. Ultrasonics, 79, 52–59. <https://doi.org/10.1016/j.ultras.2017.04.003>
85. Sun, M., Feng, N., Chen, D., Qu, Y., Lin, X., & Shen, Y. (2017). Compressed sensing in synthetic aperture photoacoustic tomography based on a linear-array ultrasound transducer. Chinese Optics Letters, 15(10), 101102-. <https://opg.optica.org/abstract.cfm?uri=col-15-10-101102>
86. Sun, M., Feng, N., Lin, X., Hu, D., & Shen, Y. (2017). Monte Carlo light transport-based blood vessel quantification using linear array photoacoustic tomography. Chinese Optics Letters, 15(11), 111701-. <https://opg.optica.org/abstract.cfm?uri=col-15-11-111701>
87. Wang, Y. A., Lok, U. W., & Li, P. C. (2017). Needle guidance using laser generated leaky acoustic waves. IEEE International Ultrasonics Symposium, IUS. <https://doi.org/10.1109/ULTSYM.2017.8092810>
88. Lok, U.-W., & Li, P.-C. (2016). Transform-Based Channel-Data Compression to Improve the Performance of a Real-Time GPU-Based Software Beamformer. IEEE TRANSACTIONS ON ULTRASONICS, FERROELECTRICS, AND FREQUENCY CONTROL, 63(3). <https://doi.org/10.1109/TUFFC.2016.2519441>
89. Shen, C. C., Yang, H. C., & Jeng, G. (2016). Sound speed optimization for ultrasound beamforming using differential phase gradient between sub-apertures. IEEE International Ultrasonics Symposium, IUS, 2016-November. <https://doi.org/10.1109/ULTSYM.2016.7728426>
90. Shen, C.-C., Xing, Y.-Q., & Jeng, G. (2016). Autocorrelation-based generalized coherence factor for low-complexity adaptive beamforming. Ultrasonics, 72, 177–183. <https://doi.org/10.1016/j.ultras.2016.07.015>
91. Huang, Y.-C., Houn, J.-Y., Kang, Y.-D., Chen, S.-Y., & Li, M.-L. (2015). Ultrafast pulsed magnetomotive ultrasound imaging of sentinel lymph nodes: Small animal study; Ultrafast pulsed magnetomotive ultrasound imaging of sentinel lymph nodes: Small animal study. IEEE International Ultrasonics Symposium. <https://doi.org/10.1109/ULTSYM.2015.0262>
92. Merčep, E., Jeng, G., Morscher, S., Li, P. C., & Razansky, D. (2015). Hybrid optoacoustic tomography and pulse-echo ultrasonography using concave arrays. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 62(9), 1651–1661. <https://doi.org/10.1109/TUFFC.2015.007058>
93. Peng, S.-Y., & Li, M.-L. (2015). Linear array beamformation using virtual sub-wavelength receiving elements; Linear array beamformation using virtual sub-wavelength receiving elements. IEEE International Ultrasonics Symposium (IUS). <https://doi.org/10.1109/ULTSYM.2015.007058>

94. Xing, Y. Q., Chiang, H. H., Jeng, G., & Shen, C. C. (2015). Low-complexity adaptive beamforming using autocorrelation-based generalized coherence factor. IEEE International Ultrasonics Symposium, IUS. <https://doi.org/10.1109/ULTSYM.2015.0502>
95. Ting, P.-H., Kang, Y.-D., Chen, S.-Y., & Li, M.-L. (2014). Ultrafast Plane Wave Imaging Based Pulsed Magnetomotive Ultrasound. IEEE International Ultrasonics Symposium. <https://doi.org/10.1109/ULTSYM.2014.0113>