**Journal Articles**

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| --- |
| <li>J. Xia and A. Mandelis, Noncontact deep level photo-thermal spectroscopy: technique and application to semi-insulating GaAs wafers, <b>Applied Physics Letters</b> 90, 062119 (1-3) (2007). |
| <li>A. Mandelis and J. Xia, Deep level photo-thermal spectroscopy: physical principles and applications to semi-insulating GaAs band-gap multiple trap states, <b>Journal of Applied Physics</b> 103, 043704 (1 – 17) (2008).</li> |
| <li>J. Xia and A. Mandelis, Broadening effects and ergodicity in deep level photo-thermal spectroscopy of defect states in semi-insulating GaAs: a combined temperature-, pulse-rate- and time-domain study of defect state kinetics, <b>Journal of Applied Physics</b> 105, 103712(1-15) (2009).</li> |
| <li>J. Xia and A. Mandelis, Radiative defect state identification in semi-insulating GaAs using photo-carrier radiometry. <b>Semiconductor Science and Technology</b>, 24, 125002 (1-7) (2009).</li> |
| <li>J. Xia and A. Mandelis, Direct-search deep level photo-thermal spectroscopy: An enhanced reliability method for overlapped semiconductor defect state characterization. <b>Applied Physics Letters</b> 96, 262112 (1-3) (2010).</li> |
| <li>A. Mandelis, A. Melnikov, J. Tolev, J. Xia, S. Huq, and E. Lioudakis, Non-destructive infrared optoelectronic lock-in carrierography of mc-Si solar cells, <b>Quantitative InfraRed Thermography Journal</b> 7, 35-54, (2010).</li> |
| <li>J. Xia, Z. Guo, K. Maslov, A. Aguirre, Q. Zhu, C. Perciva, and L.V. Wang, Three- dimensional photoacoustic tomography based on the focal-line concept. <b>Journal of Biomedical Optics Letters</b>, 16(9), 090505, (2011).<i> Top 10 most frequently downloaded papers in SPIE Biomedical Optics Medical Imaging (Dec. 2011, Jan. 2012, Feb. 2012, and Mar. 2012). </i></li> |
| <li>[G. S. Filonov\*, Arie Krumholz\*], J. Xia, J. Yao, L.V. Wang, and V.V. Verkhusha, Photoacoustic and fluorescent whole-body tomography of genetically encoded iRFP in vivo. <b>Angewandte Chemie</b> 51(6), 1448-1451 (2011). [\*Equal contribution]<i>Highlighted as a Hot Paper by Angewandte Chemie.</i></li> |
| <li>J. Xia, M. Chatni, K. Maslov, Z. Guo, K. Wang, M. Anastasio, and L.V. Wang, Whole-body ring-shaped confocal photoacoustic computed tomography of small animals in vivo. <b>Journal of Biomedical Optics Letters</b> 17(5), 050506, (2012).</li> |
| <li>[M. Chatni\*, J. Xia\*], R. Sohn, K. Maslov, Z. Guo, Y. Zhang, K. Wang, Y. Xia, M. Anastasio, J. Arbeit, and L.V. Wang, Tumor glucose metabolism imaged in vivo in small animals with whole-body photoacoustic computed tomography, <b>Journal of Biomedical Optics</b> 17(7), 076012, 2012. [\*Equal contribution]</li> |
| <li>[J. Yao\*, J. Xia\*], V. Tsytsarev, M. Nasiriavanaki, K. Maslov, and L.V. Wang, Non-invasive photoacoustic tomography of mouse brain metabolism in vivo, <b>NeuroImage</b> 64, 257-266, 2013. [\*Equal contribution]</li> |
| <li>[L. Wu\*, X. Cai\*], K. Nelson, W. Xing, J. Xia, R. Zhang, A. Stacy, M. Luderer, G. Lanza, L.V. Wang, B. Shen, and D. Pan, A green synthesis of carbon nanoparticles from honey and their use in real-time photoacoustic imaging, <b>Nano research</b> 6, 312-325, 2013. [\*Equal contribution]</li> |
| <li>Y. Wang, J. Xia, K. Maslov, and L.V. Wang, Deep tissue photoacoustic computed tomog raphy of Förster resonance energy transfer , <b>Journal of Biomedical Optics</b> 18(10), 101316, 2013.</li> |
| <li>J. Xia, A. Dannielli, Y. Liu, L. Wang, K. Maslov, and L.V. Wang, Calibration-free quantification of absolute oxygen saturation based on the dynamics of photoacoustic signals, <b>Optics Letters</b> 38(15), 2800-2803, 2013.</li> |
| <li>J. Xia, C. Huang, K. Maslov, M.A. Anastasio, and L.V. Wang, Enhancement of photoacoustic tomography by ultrasonic computed tomography based on optical excitation of elements of a full-ring transducer array. <b>Optics letters</b> 38(16), 3140-3143, 2013.</li> |
| <li>(Invited review)J. Xiaand L.V. Wang, Small-animal whole-body photoacoustic tomography: a review, <b>IEEE Transactions on Biomedical Engineering</b>, in press, 2013.</li> |
| <li>[L. Wang\*, J. Xia\*], J. Yao, K. Maslov, and L.V. Wang, Ultrasonically encoded photoacoustic flowgraphy in biological tissue, <b>Physical Review Letters</b> 111(20), 204301, 2013. Editor's Suggestion.</li> |
| <li>B. Huang, J. Xia, K. Maslov, and L.V. Wang, Improving limited-view photoacoustic tomography with an acoustic reflector, <b>Journal of Biomedical Optics Letters</b> 18(11), 110505, 2013.</li> |
| <li>J. Xia, G. Li, L. Wang, M. Nasiriavanaki, K. Maslov, J.A. Engelbach, J.R. Garbow, and L.V. Wang, Wide-field two-dimensional multifocal optical-resolution photoacoustic computed microscopy, <b>Optics Letters</b> 38(24), 5236-5239. 2013.</li> |
| <li>[M. Nasiriavanaki\*, J. Xia\*], H. Wang, A. Bauer, J. Culver, and L.V. Wang, High-resolution photoacoustic tomography of resting-state functional connectivity in the mouse brain, <b>Proceedings of the National Academy of Science</b>s, 111(1), 21-26, 2014.<i>Highlighted in Early Edition.</i></li> |
| <li>J. Xia, W. Chen, K. Maslov, M.A. Anastasio, and L.V. Wang, Retrospective respiration-gated whole-body photoacoustic computed tomography of mice, <b>Journal of Biomedical Optics</b> 19(1), 016003, 2014.</li> |
| <li>[A. Krumholz\*, D.M. Shcherbakova\*], J. Xia, L.V. Wang, and V.V. Verkhusha, Multicontrast photoacoustic in vivo imaging using near-infrared fluorescent proteins, <b>Scientific Reports</b> 4, 3939, 2014. [\*Equal contribution]</li> |
| <li>[H. Yuan\*, C. Wilson\*, J. Xia\*, S. Doyle\*], S. Li, A. Fales, Y. Liu, E. Ozakie, K. Mulfaul, G. Hanna, G. Palmer, L.V. Wang, G. Grant and T. Vo-Dinh, Plasmonics enhanced brain tumor delivery and inflammasome activation, <b>Nanoscale</b>, In press. [\*Equal contribution]</li> |
| <li>K. Wang, J. Xia, C. Li, L.V. Wang, and M.A. Anastasio, Fast spatio-temporal image reconstruction based on low-rank matrix estimation for dynamic photoacoustic computed tomography, <b>Journal of Biomedical Optics</b>, 19(5), 056007, 2014.</li> |
| <li>(Invited review) [J. Xia\*, J. Yao\*], L.V. Wang, Photoacoustic imaging: a review of current progress, <b>progress in Electromagnetics Research</b>, 147, 1-22, 2014. [\*Equal contribution]</li> |
| <li>G. Li, J. Xia, K. Maslov, and L.V. Wang, Tripling the detection view of high-frequency linear-array-based photoacoustic computed tomography by using two planar acoustic reflectors,<b>Quantitative Imaging in Medicine and Surgery</b> 5(1), 57-62, 2015.</li> |
| <li>(Invited review) [J. Xia\*, C. Kim\*, and J. Lovell\*], Opportunities for Photoacoustic-Guided Drug Delivery, <b>Current Drug Targets</b>.16(6), 571-581, 2015.</li> |
| <li>L. Lin, J. Xia, T.W. Wong, L. Li, and L.V. Wang, In vivo deep-brain imaging of rats using oral-cavity illuminated photoacoustic computed tomography, <b>Journal of Biomedical Optics</b>,20(1), 016019-016019, 2015.</li> |
| <li>[L. Wang\*, G. Li\*], J. Xia, and L.V. Wang, Ultrasonic-heating–encoded photoacoustic tomography with virtually augmented detection view, <b>Optica</b> 2(4), 307-312, 2015.</li> |
| <li>K.J. Cash, C. Li, J. Xia, L.V. Wang, and H.A. Clark, Optical Drug Monitoring: Photoacoustic Imaging of Nanosensors to Monitor Therapeutic Lithium In Vivo, <b>ACS Nano</b>, 9(2):1692-1698, 2015.</li> |
| <li>A. Danielli, K. Maslov, C.P. Favazza, J. Xia, and L.V. Wang, Nonlinear photoacoustic spectroscopy of hemoglobin, <b>Applied Physics Letters</b> 106(20), 203701, 2015.</li> |
| <li>G. Li, L. Li, L. Zhu, J. Xia, and L.V. Wang, Multiview Hilbert transformation for full-view photoacoustic computed tomography using a linear array, <b>Journal of Biomedical Optics</b> 20(6), 066010, 2015.</li> |
| <li>(Invited review) J. Xia, Y. Wang, and H. Wan, Recent Progress in Multimodal Photoacoustic Tomography, <b>X-Acoustics: Imaging and Sensing</b> 1:55-64, 2015.</li> |
| <li>Q. Sheng, K. Wang, J. Xia, L. Zhu, L.V. Wang, and M.A. Anastasio, A constrained variable projection reconstruction method for photoacoustic computed tomography with inaccurate transducer responses, <b>IEEE Transactions on Medical Imaging</b>, 34(12), 2443-58, 2015.</li> |
| <li>(Invited review) J. Yao, J. Xia, and L.V. Wang Multiscale Functional and Molecular Photoacoustic Tomography, <b>Ultrasonic Imaging</b> 38(1), 44-62, 2016.</li> |
| <li>(Invited review) D. Wang, Y. Wu, and J. Xia, Review on photoacoustic tomography of the brain using nanoprobes, <b>Neurophotonics</b>, 3(1), 010901, 2016.</li> |
| <li>Y. Wang, D. Wang, Y. Zhang, J. Geng, J.F. Lovell, and J. Xia, Slit-enabled linear-array photoacoustic tomography with near isotropic spatial resolution in three dimensions, <b>Optics Letters</b>, 41(1), 127-130, 2016.</li> |
| <li>[Y. Zhou\*, D. Wang\*], Y. Zhang, U Chitgupi, J. Geng, Y. Wang, Y. Zhang, T.R. Cook, J. Xia, and J.F. Lovell A Phosphorus Phthalocyanine Formulation with Intense Absorbance at 1000 nm for Deep Optical Imaging, <b>Theranostics</b> 6(5), 688, 2016.</li> |
| <li>D. Wang, Y. Wang, Y. Zhou, J.F. Lovell, and J. Xia Coherent-weighted three-dimensional image reconstruction in linear-array-based photoacoustic tomography, <b>Biomedical Optics Express</b>, 7(5), 1957-1965, 2016.</li> |
| <li>H. Wan, Y. Zhou, L. Ying, J. Meng, L. Song, and J. Xia Enabling high-speed wide-field dynamic imaging in multifocal photoacoustic computed microscopy: a simulation study, <b>Applied Optics</b>, 55(14), 3724-3729, 2016.</li> |
| <li>H. Huang, D. Wang, Y. Zhang, Y. Zhou, J. Geng, U. Chitgupi, T.R. Cook, J. Xia, and J.F. Lovell Axial PEGylation of Tin Octabutoxy Naphthalocyanine Extends Blood Circulation for Photoacoustic Vascular Imaging, <b>Bioconjugate chemistry</b> 27, 1574-1578, 2016.</li> |
| <li>Y. Zhang, D. Wang, S. Goel, B. Sun, U. Chitgupi, J. Geng, H. Sun, T.E. Barnhart, W. Cai, J. Xia, and J.F. Lovell Surfactant-Stripped Frozen Pheophytin Micelles for Multimodal Gut Imagingg, <b>Advanced Materials</b> ,2016.</li> |
| <li>L. Lei, J. Xia, G. Li, A. Garcia-Uribe, Q. Sheng, M.A. Anastasio, and L.V. Wang Label-free photoacoustic tomography of whole mouse brain structures ex vivo, <b>Neurophotonics</b>. 0001;3(3):035001, 2016.</li> |

**Book Chapters**

|  |
| --- |
| <li>J. Xia and L.V. Wang, Photoacoustic tomography of the brain, in Optical Methods and Instrumentation in Brain Imaging and Therapy. S. Madsen, Ed., Springer. 2012. |
| <li>J. Yao\*, J. Xia\*, and L.V. Wang, Photoacoustic Tomography for Biomedical Applications, in Optics Encyclopedia. Wiley, in press, 2014. </li> |
| <li>J. Xia, J. Yao, and L.V. Wang, Photoacoustic neuroimaging, in Neurophotonics for Brain Mapping and Therapeutics. B. Kateb and Y. Chen, Ed., The Society of Brain Mapping and Therapeutics, in press, 2014.</li> |

**Editor-refereed Proceedings**

|  |
| --- |
| <li>(Invited) J. Xia and A. Mandelis, Deep-Level Photo-Thermal Spectroscopy, Emerging Technologies in NDT, Proc. 4th Int. Conf. On Emerging Technologies in NDT, pp. 187 – 192. (2008). |
| <li>J. Xia, Z. Guo, A. Aguirre, Q. Zhu, and L.V. Wang, Small-animal whole-body imaging using a photoacoustic full-ring array system, Proceedings of SPIE 7899, 789911, (2011).<i>Top 10 most frequently downloaded papers in SPIE Biomedical Optics Medical Imaging (Dec. 2011, Jan. 2012, and Apr. 2012).</i></li> |
| <li>A. Danielli, K. Maslov, J. Xia, and L.V. Wang, Wide range quantitative photoacoustic spectroscopy to measure non-linear optical absorption of hemoglobin, Proceedings of SPIE 8223, 82233H, (2012).</li> |
| <li>J. Xia, M. Chatni, K. Maslov, Z. Guo, M. Anastasio, and L.V. Wang, Ring-shaped confocal photoacoustic computed tomography for small animal whole-body imaging. Proceedings of SPIE 8223, 82230G, (2012).</li> |
| <li>J. Yao, J. Xia, K. Maslov, M. Avanaki, V. Tsytsarev, A.V. Demchenko, and L.V. Wang. Noninvasive photoacoustic computed tomography of mouse brain metabolism in vivo. Proceedings of SPIE 8581, 85814A, (2013). <i>Best Poster Award. An image in the manuscript was presented in a Nature outlook article (Nature 502, S90–S91, 2013). </i></li> |
| <li>X. Cai, L. Wu, W. Xing, J. Xia, L. Nie, R. Zhang, G.M. Lanza, B. Shen, D. Pan, and L.V. Wang, Carbon nanoparticles as a multimodal thermoacoustic and photoacoustic contrast agent. Proceedings of SPIE 8581, 858140, (2013).</li> |
| <li>M. Avanaki, J. Xia, and L.V. Wang, High resolution functional photoacoustic computed tomography of the mouse brain during electrical stimulation. Proceedings of SPIE 8581, 85813K, (2013).</li> |
| <li>J. Xia, M. Chatni, K. Maslov, L.V. Wang, Anatomical and metabolic small-animal whole-body imaging using ring-shaped confocal photoacoustic computed tomography, Proceedings of SPIE 8581, 85810K, (2013).</li> |
| <li>K. Wang, J. Xia, C. Li, L.V. Wang, M.A. Anastasio, Low-rank matrix estimation-based spatio-temporal image reconstruction for dynamic photoacoustic computed tomography, SPIE BiOS, 89432I-89432I-8, 2014</li> |
| <li>M. Nasiriavanaki, W. Xing, J. Xia, L.V. Wang, Functional connectivity in the mouse brain imaged by B-mode photoacoustic microscopy, SPIE BiOS, 894364-894364-5, 2014</li> |
| <li>Y. Lou, J Xia, L.V. Wang, Mouse brain imaging using photoacoustic computed tomography, SPIE BiOS, 894340-894340-7, 2014</li> |
| <li>J Xia, C. Huang, K. Maslov, M.A. Anastasio, L.V. Wang, Acoustic-speed correction of photoacoustic tomography by ultrasonic computed tomography based on optical excitation of elements of a full-ring transducer array, SPIE BiOS, 89432G-89432G-6, 2014</li> |
| <li>G. Li, J. Xia, K.I. Maslov, L.V. Wang, Broadening the detection view of high-frequency linear-array-based photoacoustic computed tomography by using planar acoustic reflectors, SPIE BiOS, 89430H-89430H-6, 2014</li> |
| <li>M. Nasiriavanaki, J. Xia, H. Wan, A.Q. Bauer, J.P. Culver, L.V. Wang, Resting-state functional connectivity imaging of the mouse brain using photoacoustic tomography, SPIE BiOS, 89432O-89432O-5. 2014</li> |
| <li>Q. Sheng, K. Wang, J. Xia, L. Zhu, L.V. Wang, M. Anastasio, Photoacoustic computed tomography without accurate ultrasonic transducer responses, Proceedings of SPIE 9323:932313, 2015.</li> |
| <li>L. Lin, J. Xia, T.T.W. Wong, R.Y. Zhang, L.V. Wang, In vivo deep brain imaging of rats using oral-cavity illuminated photoacoustic computed tomography, Proceedings of SPIE 9323: 93230G, 2015.</li> |
| <li>L. Li, J. Xia, G. Li, A. Garcia-Uribe, L.V. Wang, Label-free structural photoacoustic tomography of intact mouse brain, Proceedings of SPIE 9323:93230M, 2015.</li> |
| <li>G. Li, J. Xia, L. Li, L.D. Wang, and L.V. Wang, Isotropic-resolution linear-array-based photoacoustic computed tomography through inverse Radon transform, Proceedings of SPIE 9323:93230I, 2015.</li> |

**Peer-reviewed Proceeding**

|  |
| --- |
| <li>J. Xia and A. Mandelis, Noncontact Deep Level Photo-Thermal Spectroscopy of Semi-Insulating GaAs, Proc. 14th Int. Conf. Photoacoustic Photothermal Phenomena, January 6 – 9, 2007, European Physical Journal, Special Topics 153, 283 – 285. (2008) |
| <li>(Invited) A. Mandelis and J. Xia, Broadening effects and ergodicity in deep level photo-thermal spectroscopy of defect states in semi-insulating GaAs: a combined temperature-, pulse-rate- and time-domain study of defect state kinetics, Proc. 15th Int. Conf. Photoacoustic Photothermal Phenomena, July 19 – 23, 2009, Journal of Physics: Conference Series 214, 012001 (1 – 7) (2010).</li> |
| <li>J. Xia and A. Mandelis, Photocarrier radiometric study of defect states in semi-insulating GaAs, Proc. 15th Int. Conf. Photoacoustic Photothermal Phenomena, July 19 – 23, 2009, Journal of Physics: Conference Series 214, 012107 (1 – 5) (2010).</li> |