WEILI ZHANG, Ph.D., F.OSA

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PRESENT POSITION

Regents Professor
School of Electrical and Computer Engineering
Oklahoma State University

AREAS OF INTEREST

Terahertz optoelectronics, nano- and micro-structured materials optics, ultrafast phenomena, and semiconductor photonics

EDUCATION

Ph.D., Optical Engineering, Tianjin University, P.R. China, 1993
M.S., Optical Engineering, Tianjin University, P.R. China, 1990
B.S., Laser Science, Tianjin University, P.R. China, 1987

PROFESSIONAL EXPERIENCE

Regents Professor, School of Electrical and Computer Engineering, Oklahoma State University, 2025-present
Professor, School of Electrical and Computer Engineering, Oklahoma State University, 2011-2025
Associate Professor, School of Electrical and Computer Engineering, Oklahoma State University, 2002-2005, tenure-track; 2006-2011, tenured
Visiting Associate Professor, School of Electrical and Computer Engineering, Oklahoma State University, 2000-2001
Professor & Vice Chairman, Department of Optoelectronics Information Engineering, Tianjin University, P. R. China, 1997-2001
Visiting Professor, Department of Physics, The Hong Kong University of Science & Technology, Hong Kong, 1998.6-1998.9
Associate Professor, College of Precision Instruments & Optoelectronics Engineering, Tianjin University, P. R. China, 1995-1997
Post-Doctoral Research Associate, Department of Physics, The Hong Kong University of Science & Technology, Hong Kong, 1993-1995

PROFESSIONAL SERVICE

Associate Editor, *Photonics Insights*, 2021-present; *Research*, 2025-present
Section Editor-in-Chief, *Materials*, 2024-present
Primary Gest Editor, *IEEE Journal of Selected Topics in Quantum Electronics*, 2017
Member, International Organizing Committee, 6th *International Symposium on Microwave and Terahertz Science and Applications* (*MTSA* 2024), Copenhagen, Denmark, June 3-7, 2024
Adjunct Professor, Tianjin University, 2002-present
Journal Review (40+ Journals): *Nature*, *Nature Photonics*, *Nature Physics*, *Nature Communications*, *Nature Materials*, *Science Advances*, *Advanced Materials*, *Materials Today*, *Physical Review Letters*, *IEEE Transactions on Terahertz Science and Technology*, *Applied Physics Letters, Optics Letters, etc.*

UNIVERSITY, COLLEGE AND DEPARTMENT SERVICE

Vice Chair, Laser Safety Committee, Oklahoma State University, 2015-present
Member, Titled Committee for Dean of the College of Engineering, Architecture and Technology, 2025-present
Director of Graduate Program, School of Electrical and Computer Engineering, 2019-present

HONORS AND AWARDS

Highly Cited Researcher, Clarivate (Web of Science), 2019, 2020, 2021, 2022, 2023
Fellow, The Optical Society (OSA), 2015
Regents Distinguished Research Award, Oklahoma State University, 2015

PUBLICATIONS

435 invited or contributed publications in peer-reviewed journals. Citations: Web of Science Citations: **24,347**, h-index: **79**, ESI Highly Cited Papers: **16**; Scopus Citations: **26,112**, h-index: **79**; Google Scholar Citations: **31,001**, h-index: **91**

Selected Journal Publications

1. L. Niu, X. Feng, X. Zhang, Y. Lu, Q. Wang, Q. Xu, X. Chen, J. Ma, H. Qiu, W. E.I. Sha, S. Zhang, A. Alù, **W. Zhang**, and J. Han, "Nonlinear Metasurfaces for Completed Control of Amplitude, Phase, and Polarization in Broadband Terahertz Generation," *Nature Communications* **16**, 8159 (2025).
2. Q. Wang, X. Zhang, Q. Xu, X. Feng, L. Niu, X. Chen, Y. Lu, J. Feng, M. Fang, X. Zhang, **W. Zhang**, and J. Han, "Nonlinear Metasurfaces for Completed Control of Amplitude, Phase, and Polarization in Broadband Terahertz Generation," *Advanced Materials* **2025**, 2500392 (2025).
3. J. Liang, J. Zhang, Z. Wang, R. Wang, Z. Yao, R. Singh, Z. Tian, and **W. Zhang**, "Photoactive Polymer-Silicon Heterostructures for Terahertz Spatial Light Modulation and Video-Rate Single-Pixel Compressive Imaging," *Advanced Functional Materials* **2025**, 2422478 (2025).
4. J. Li, Y. Yao, J. Liang, C. Li, L. Jiang, Z. Tian, and **W. Zhang**, "Non-invasive, real-time monitoring of blood Na^+ in vivo using terahertz optoacoustics", *Optica* **12**, 914-923 (2025).
5. W. Liu, X. Jiang, K. Ding, J. You, J. Gu, Q. Xu, L. Wang, L. Wang, Ch. Bi, Y. Gu, J. Zhang, S. Gong, J. Han, Y. Zhang, and **W. Zhang**, "Vector Mode Division Multiplexing in Terahertz Wireless Link Enabled by Multifunction Metasurfaces," *Optica* **12**, 140-147 (2025).
6. Y. Lu, X. Zhang, H. Qiu, L. Niu, X. Chen, Q. Xu, **W. Zhang**, S. Zhang, and J. Han, "Ultrafast Temporal Modulation of Terahertz Generation at an Optically Pumped ITO Interface," *Optica* **12**, 1035-1043 (2025).
7. W. Liu, X. Jiang, Q. Xu, F. Hang, Q. Yang, Y. Lu, Y. Gu, J. Gu, J. Han, and **W. Zhang**, "All-dielectric Terahertz Metasurfaces for Multi-dimensional Multiplexing and Demultiplexing," *Laser & Photonics Reviews* **2024**, 2301061 (2024).
8. J. Gu, X. Zhuang, W. Zhang, K. Wang, Y. Gu, Y. An, X. Zhang, D. Luo, J. Han, **W. Zhang**, "Active Terahertz Beam Steering Based on Mechanical Deformation of Liquid Crystal Elastomer Metasurface," *Light: Science & Applications* **12**, 14 (2023).
9. Q. Wang, X. Zhang, Q. Xu, X. Feng, Y. Lu, L. Niu, E. Plum, J. Gu, Q. Yang, M. Fang, Z. Huang, S. Zhang, J. Han, and **W. Zhang**, "Nonlinear terahertz generation: chiral and achiral meta-atom coupling," *Advanced Functional Materials* **33**, 2300639 (2023).
10. Y. Xu, J. Gu, Y. Gao, Q. Yang, W. Liu, Z. Yao, Q. Xu, J. Han, and **W. Zhang**, "Broadband Achromatic Terahertz Metalens Constituted by Si-SiO_2-Si Hybrid Meta-atoms," *Advanced Functional Materials* **33**, 2302821 (2023).

11. Q. Xu, Y. Lang, X. Jiang, X. Yuan, Y. Xu, J.g Gu, Z. Tian, C. Ouyang, X. Zhang, J. Han, and **W. Zhang**, "Meta-Optics Inspired Surface Plasmon Devices," *Photonics Insights* **2**(1), R02 (2023). (*Invited Paper*)
12. X. Yuan, Q. Xu, Y. Lang, X. Jiang, Y. Xu, X. Chen, J. Han, X. Zhang, J. Han, and **W. Zhang**, "Tailoring spatiotemporal dynamics of plasmonic vortices," *Opto-Electronic Advances* **6**, 220133 (2023). (*Invited Paper*)
13. T. Wu, Q. Xu, X. Zhang, Y. Xu, X. Chen, X. Feng, L. Niu, F. Huang, J. Han, and **W. Zhang**, "Spin-Decoupled Interference Metasurfaces for Complete Complex-Vectorial-Field Control and Five-Channel Imaging," *Advanced Science* **2022**, 2204664 (2022).
14. J. Han, Y. Xu, H. Zhang, Y. Lang, X. Jiang, X. Chen, X. Feng, L. Niu, Y. Li, X. Zhang, Q. Xu, Q. Li, J. Han, and **W. Zhang**, "Tailorable Polarization-Dependent Directional Coupling of Surface Plasmons," *Advanced Functional Materials* **32**, 2111000 (2022).
15. Y. Xu, Q. Xu, X. Zhang, X. Feng, Y. Lu, X. Zhang, M. Kang, J. Han, and **W. Zhang**, "Stereo Metasurfaces for Efficient and Broadband Terahertz Polarization Conversion," *Advanced Functional Materials* **32**, 2207269 (2022).
16. L. Cong, J. Han, **W. Zhang**, and R. Singh, "Temporal loss boundary engineered photonic Cavity," *Nature Communications* **12**, 6940 (2021).
17. J. Li, Y. Yao, L. Jiang, S. Li, Z. Yi, X. Chen, Z. Tian, and **W. Zhang**, "Time-domain terahertz optoacoustics: manipulable water sensing and dampening," *Advanced Photonics* **3**, 026003 (2021).
18. Y. Xu, H. Zhang, Q. Li, X. Zhang, Q. Xu, W. Zhang, C. Hu, X. Zhang, J. Han, and **W. Zhang**, "Generation of terahertz vector beams using dielectric metasurfaces via spin-decoupled phase control," *Nanophotonics* **9**, 3393-3402 (2020). (*Invited paper*)
19. X. Zhang, Q. Xu, L. Xia, Y. Li, J. Gu, Z. Tian, C. Ouyang, J. Han, and **W. Zhang**, "Terahertz surface plasmonic waves: a review," *Advanced Photonics* **2**, 014001 (2020). (*Invited paper*)
20. Y. Yang, H. Liu, M. Yang, B. Cui, and **W. Zhang**, "Dielectric sphere-coupled THz super-resolution imaging," *Applied Physics Letters* **113**, 031105 (2018).
21. N. Xu, R. Singh, and **W. Zhang**, "High-Q lattice mode matched structural resonances in terahertz metasurfaces," *Applied Physics Letters* **109**, 021108 (2016).
22. R. Singh, W. Cao, I. Al-Naib, L. Cong, W. Withayachumnankul, and **W. Zhang**, "Ultrasensitive THz sensing with high-Q Fano resonances in metasurfaces," *Applied Physics Letters* **105**, 171101 (2014).
23. R. Singh, I. Al-Naib, W. Cao, C. Rockstuhl, M. Koch, and **W. Zhang**, "The Fano resonance in symmetry broken terahertz metamaterials," *IEEE Transactions on Terahertz Science and Technology* **3**, 820-826 (2013). (*Invited paper*)
24. W. Cao, R. Singh, I. A. I. Al-Naib, M. He, A. J. Taylor, and **W. Zhang**, "Low-loss ultra-high-Q dark mode plasmonic Fano metamaterials," *Optics Letters* **37**, 16, 3366-3368 (2012).
25. R. Singh, I. A. I. Al-Naib, M. Koch, and **W. Zhang**, "Sharp Fano resonances in THz metamaterials," *Optics Express* **19**, 6312-6319 (2011).
26. X. Lu, J. Han, and **W. Zhang**, "Transmission field enhancement of terahertz pulses in plasmonic, rectangular coaxial geometries," *Optics Letters* **35**, 904-906 (2010).
27. S. Zhang, Y.-S. Park, J. Li, X. Lu, **W. Zhang**, and X. Zhang, "Negative refractive index in chiral metamaterials," *Physical Review Letters* **102**, 023901 (2009).
28. J. F. O'Hara, R. Singh, I. Brener, E. Smirnova, J. Han, A. J. Taylor, and **W. Zhang**, "Thin-film sensing with planar terahertz metamaterials: sensitivity and limitations," *Optics Express* **16**, 1786-1795 (2008).

29. **W. Zhang**, A. K. Azad, J. Han, J. Xu, J. Chen, and X.-C. Zhang, "Direct observation of a transition of a surface plasmon resonance from a photonic crystal effect," *Physical Review Letters* **98**, 183901 (2007).
30. A. K. Azad, J. Dai, and **W. Zhang**, "Transmission properties of terahertz pulses through subwavelength double split-ring resonators," *Optics Letters* **31**, 634-636 (2006).
31. D. Qu, D. Grischkowsky, and **W. Zhang**, "Terahertz transmission properties of thin, subwavelength metallic hole arrays," *Optics Letters* **29**, 896-898 (2004).
32. **W. Zhang**, A. Azad, and D. Grischkowsky, "Terahertz studies of carrier dynamics and dielectric response of n-type, freestanding epitaxial GaN," *Applied Physics Letters* **82**, 2841-2843 (2003).
33. **W. Zhang**, J. Zhang, and D. Grischkowsky, "Quasi-optic dielectric terahertz cavity - Coupled through optical tunneling," *Applied Physics Letters* **78**, 2425-2427 (2001).
34. **W. Zhang**, K. S. Wong, H. Wang, Z. K. Tang, G. K. L. Wong, and R. K. Jain, "Magnitude and dynamics of third-order optical nonlinearity in ZnO microcrystallite thin films," *Applied Physics Letters* **75**, 3321-3323 (1999).
35. **W. Zhang**, N. Cue, and K. M. Yoo, "Emission linewidth of laser action in random gain media," *Optics Letters* **20**, 961-963 (1995).