

- Education:** **Ph.D.:** 2003, Electrical Engineering, Princeton University, Princeton, NJ
Advisor: Prof. Stephen Y. Chou
Minors: Physics, Computer Engineering
- M.A.:** 2000, Electrical Engineering, Princeton University, Princeton, NJ
- B.Sc.:** 1996, Physics, Peking University, Beijing, China

Experience:

- 1/12-Present Ming Hsieh Department of Electrical Engineering, University of Southern California, Los Angeles, CA
Professor(12/23-present), Associate Professor(1/12-12/23),
- Hybrid computing platform for mobile robotic control
 - Memristive devices for emerging computation technologies
 - Optical metasurfaces
 - Plasmonic structure with sub-nanometer precision
 - Nano-cells for high-efficiency electrochemistry reactions
 - Nano-engineering for medical applications
 - Stereolithography with variable voxels
 - Nanoimprint lithography and applications
 - Energy-efficient full-color reflective display
- 9/03-12/11 Information and Quantum System Lab (formally Quantum Science Research), HP labs, Hewlett-Packard co., Palo Alto, CA
Senior Scientist (3/08-12/11), Scientist (5/05-2/08) and Research Associate (9/03-5/05)
- Apply nanofabrication technologies, especially nanoimprint lithography, on the fabrication of molecular scale electronics, especially crossbar resistive memory (i.e. memristor).
 - SERS devices.
 - Negative index materials (NIMs) at the infrared range.
 - Nanoimprint lithography and nanoimprint machine developments (commercialized via IP licensing).
 - Photonic interconnects
- 2/98-9/03 Electrical Engineering, Princeton University, Princeton, NJ
Research Assistant
- Room temperature single electron memory nanoimprint lithography.
 - Developed the process of large area (up to 4" wafer) UV-cure NIL.
 - Sub-wavelength optical elements fabricated using NIL
 - Large area patterned magnetic media fabricated using NIL
- 1/97-1/98 Electrical Engineering, University of Minnesota, Minneapolis, MN

Research Assistant

- Large area gratings and grids by interference lithography and NIL

7/01-9/01 NanoOpto Co. Somerset, NJ

Intern Senior Engineer

- 200nm pitch gratings fabrication for sub-wavelength optical elements

Research Highlight:

- Memristor-based hybrid analog-digital computing platform for mobile robotics
- Memristor-based QP/LP solver circuit
- Optical inverse design using machine learning.
- Color-reflective display based on optical metasurfaces.
- Optical metasurface for visible and IR ranges based on heterogenous materials
- High-performance plasmonic structures fabricated using collapsible nano-fingers, and applications based on those structures
- Nano-electrochemistry cell for electrolyte-free water electrolysis and sensing
- Multi-scale stereolithography with variable voxel sizes
- Spectrum-splitting for energy harvesting using dielectric optical metasurfaces
- Integration of memristor circuits with CMOS circuits
- Sub-5nm patterning of dense and isolated patterns using nanoimprint lithography and Helium ion beam lithography.
- The first negative index metamaterial (NIM) at 1.55 μm range made by nanoimprint lithography
- The first optical modulation of NIM at near-IR. It had a modulation speed of 0.7 ps.
- The first 3rd harmonic generation using NIM.
- The first room-temperature single electron memory by nanoimprint
- The first large area patterned magnetic media by nanoimprint
- 119 granted US patents
- Invented stereolithography with variable voxels, which has been commercialized through IP licensing.
- Invented the nanoimprint machine based on wafer bowing process, which has been commercialized through IP licensing.

Honors and Awards:

USC Stevens Center for Innovation Commercialization Award 2020.

Nanoimprint Pioneer Award, NNT conference 2015

IEEE Nanotechnology Council 2015 and 2016 distinguished lecturer

Chair, Nanofabrication technology committee (TC3), IEEE Nanotechnology Council, 2016- 2021. TC3 won 2020 *IEEE NTC technology committee award.*

Fellow of National Academy of Inventors, 2024

Fellow of International Society for NanoManufacturing(ISNM), 2021

Senior member of IEEE, 2009

Senior member of SPIE, 2014

Publications and Patents:

126 papers in peer-reviewed scientific journals, 2 book chapters, > 100 conference presentations (including 18 keynote and invited conference presentations)

119 granted U.S. Patents (about half of them also filed internationally)

The sum of the times cited: 12155, h-index: 53 (Web of Science has a lower citation number because it doesn't include citations to my patents)

Google Scholar: <http://scholar.google.com/citations?user=zglpRu0AAAAJ&hl=en&oi=ao>

Publications in Scientific Journals

1. Zerui Liu, Hsiang-Chun Cheng, Sushmit Hossain, Deming Meng, Ryan Bena, Yudi Shi, Buyun Chen, Daniel W Yang, Shiyu Su, Yunxiang Wang, Pan Hu, Mayank Palaria, Hao Yang, Qiaochu Zhang, Boxiang Song, Tse-Hsien Ou, Jiacheng Ye, Nishat Tasnim Hiramony, Hongming Zhang, Ting-Hao Hsu, Zhexiang Tang, Zhi Cai, Mark Barnell, Qing Wu, Ce Yang, Stephen Cronin, Quan Nguyen, Mike Shuo-Wei Chen, and Wei Wu, *Ultrafast Hybrid Computing Systems Enabled by Memristor-Based Quadratic Programming Circuits*. [*Advanced Functional Materials*, 2024, 34, 2401600.](#)
2. Yunxiang Wang, Ziyuan Yang, Pan Hu, Sushmit Hossain, Zerui Liu, Tse-Hsien Ou, Jiacheng Ye, and Wei Wu, *End-to-end Diverse Metasurfaces Design and Evaluation using Invertible Neural Network*. [*Nanomaterials* 2023, 13 \(18\), 2561.](#)
3. Hu, P., Hossain, S., Liu, Z., Meng, D., Wang, Y., Ou, T.-H., Yang, H., Chen, B., Cai, Z., Shi, Y., Barnell, M., Wu, Q., Cronin, S.B. and Wu, W. (2023), *Hybrid Tuning of Sub-Filaments to Improve Analog Switching Performance in Memristive Devices*. [*Adv. Mater. Technol.* 2300109.](#)
4. Ou, T.-H.; Hu, P.; Liu, Z.; Wang, Y.; Hossain, S.; Meng, D.; Shi, Y.; Zhang, S.; Zhang, B.; Song, B.; Liu, F.; Cronin, S.B.; Wu, W. *Plasmon-Enhanced Photocatalytic CO₂ Reduction for Higher-Order Hydrocarbon Generation Using Plasmonic Nano-Finger Arrays*. [*Nanomaterials* 2023, 13, 1753.](#)
5. Liu, Z.; Meng, D.; Su, G.; Hu, P.; Song, B.; Wang, Y.; Wei, J.; Yang, H.; Yuan, T.; Chen, B.; Ou, T.-H.; Hossain, S.; Miller, M.; Liu, F.; Wu, W., *Ultrafast Early Warning of Heart Attacks through Plasmon-Enhanced Raman Spectroscopy using Collapsible Nanofingers and Machine Learning*. [*Small* 2023, 19 \(2\), 2204719.](#)
6. Su, G., Hu, P., Xiao, Y., Hu, J., Pan, D., Zhan, P., Haas, S., Wu, W., Liu, F., *Tuning Photoluminescence of CsPbBr₃ Quantum Dots through Plasmonic Nanofingers*. [*Adv. Optical Mater.* 2023, 2202750.](#)
7. Su, G.; Hu, P.; Hu, J.; Wang, X.; Wu, G.; Shang, Y.; Zhan, P.; Liu, F.; Wu, W., *Collapsed nanofingers by DNA functionalization as SERS platform for mercury ions sensing*. [*Journal of Raman Spectroscopy* 2023, 54 \(1\), 6-12.](#)

8. Wang, Y.; Chen, B.; Meng, D.; Song, B.; Liu, Z.; Hu, P.; Yang, H.; Ou, T.-H.; Liu, F.; Pi, H.; Pi, I.; Pi, I.; Wu, W., *Hot Electron-Driven Photocatalysis Using Sub-5 nm Gap Plasmonic Nanofinger Arrays*. [*Nanomaterials* **2022**, *12* \(21\), 3730.](#)
9. Su, G.; Gao, A.; Peng, B.; Hu, J.; Zhang, Y.; Liu, F.; Zhang, H.; Zhan, P.; Wu, W., *Observation of in-plane exciton–polaritons in monolayer WSe2 driven by plasmonic nanofingers*. [*Nanophotonics* **2022**, *11* \(13\), 3149-3157.](#)
10. Lien, M. R.; Meng, D.; Liu, Z.; Sakib, M. A.; Tang, Y.; Wu, W.; Povinelli, M. L., *Experimental characterization of a silicon nitride photonic crystal light sail*. [*Opt. Mater. Express* **2022**, *12* \(8\), 3032-3042.](#)
11. Sui, Y.; Hu, P.; Pan, D.; Jiang, Z.; Song, Q.; Su, G.; Wu, W.; Liu, F., *Long-range interference of localized electromagnetic field enhancement in plasmonic nanofinger lattices*. [*Frontiers in Physics* **2022**, *10*.](#)
12. Fang, W.; Hu, P.; Wu, Z.; Xiao, Y.; Sui, Y.; Pan, D.; Su, G.; Zhu, M.; Zhan, P.; Liu, F.; Wu, W., *Plasmonic dye-sensitized solar cells through collapsible gold nanofingers*. [*Nanotechnology* **2021**, *32* \(35\), 355301.](#)
13. Meng, D.; Wang, Y.; Yang, H.; Chen, B.; Hu, P.; Song, B.; Wang, Y.; Liu, Z.; Ou, T.-H.; Zheng, X.; Gong, Y.; Wu, W., *Optical metrology of characterizing wetting states*. [*J. Vac. Sci. Technol. B* **2021**, *39* \(6\), 064001.](#)
14. Pi, I.; Pi, I.; Wu, W., *External factors that affect the photoplethysmography waveforms*. [*SN Applied Sciences* **2021**, *4* \(1\), 21.](#)
15. Yan, X.; Ma, J.; Wu, T.; Zhang, A.; Wu, J.; Chin, M.; Zhang, Z.; Dubey, M.; Wu, W.; Chen, M. S.-W.; Guo, J.; Wang, H., *Reconfigurable Stochastic neurons based on tin oxide/MoS2 hetero-memristors for simulated annealing and the Boltzmann machine*. [*Nat Commun* **2021**, *12* \(1\), 5710.](#)
16. He, S.; Tian, R.; Wu, W.; Li, W.-D.; Wang, D., *Helium-ion-beam nanofabrication: extreme processes and applications*. [*International Journal of Extreme Manufacturing* **2021**, *3* \(1\), 012001.](#)
17. Chen, B.; Yang, H.; Song, B.; Meng, D.; Yan, X.; Li, Y.; Wang, Y.; Hu, P.; Ou, T.-H.; Barnell, M.; Wu, Q.; Wang, H.; Wu, W., *A memristor-based hybrid analog-digital computing platform for mobile robotics*. [*Science Robotics* **2020**, *5* \(47\), eabb6938.](#)
18. Song, B.; Jiang, Z.; Liu, Z.; Wang, Y.; Liu, F.; Cronin, S. B.; Yang, H.; Meng, D.; Chen, B.; Hu, P.; Schwartzberg, A. M.; Cabrini, S.; Haas, S.; Wu, W., *Probing the Mechanisms of Strong Fluorescence Enhancement in Plasmonic Nanogaps with Sub-nanometer Precision*. [*Acs Nano* **2020** *14* \(11\), 14769-14778.](#)
19. Yang, H.; Chen, B.; Song, B.; Meng, D.; Tiwari, S.; Krishnamoorthy, A.; Yan, X.; Liu, Z.; Wang, Y.; Hu, P.; Ou, T.-H.; Branicio, P.; Kalia, R.; Nakano, A.; Vashishta, P.; Liu,

- F.; Wang, H.; Wu, W., *Memristive Device Characteristics Engineering by Controlling the Crystallinity of Switching Layer Materials*. [*ACS Applied Electronic Materials* **2020** \(6\), 1529-1537.](#)
20. Yang, H.; Liu, H.; Song, B.; Li, Y.; Meng, D.; Chen, B.; Hu, P.; Wang, Y.; Ou, T.-H.; Povinelli, M. L.; Wu, W., *Effects of roughness and resonant-mode engineering in all-dielectric metasurfaces*. [*Nanophotonics* **2020**, \(0\), 20190501.](#)
21. Hu, J.; Yu, H.; Su, G.; Song, B.; Wang, J.; Wu, Z.; Zhan, P.; Liu, F.; Wu, W.; Wang, Z., "Dual-Electromagnetic Field Enhancements through Suspended Metal/Dielectric/Metal Nanostructures and Plastic Phthalates Detection in Child Urine." [*Advanced Optical Materials* **2020**, 8 \(2\), 1901305.](#)
22. He Liu, Hao Yang., Yuanrui Li, Boxiang Song, Yifei Wang, Zerui Liu, Liang Peng, Haneol Lim, Jongseung Yoon, Wei Wu. "Switchable All-Dielectric Metasurfaces for Full-color Reflective Display." [*Advanced Optical Materials* **7** \(8\), 1801639 \(2019\).](#)
23. Tse-Hsien Ou, Y. W., Dan Fang, S. R. Narayanan, Wei Wu (2019). "Detection of Fake Alcoholic Beverages Using an Electrolyte-free Nanogap Electrochemical Cell." [*Acs Applied Materials & Interfaces* **2019**, 11 \(6\), 6217-6223.](#)
24. Yuanrui Li, Huachao Mao, Pan Hu, Mark Hermes, Haneol Lim, Jongseung Yoon, Mitul Luhar, Yong Chen, Wei Wu. "Bio-inspired Functional Surfaces Enabled by Multiscale Stereolithography." [*Advanced Materials Technologies* **4** \(5\), 1800638 \(2019\).](#) (featured on cover)
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26. Mao, H.; Leung, Y.-S.; Li, Y.; Hu, P.; Wu, W.; Chen, Y., *Multiscale Stereolithography Using Shaped Beams*. [*Journal of Micro and Nano-Manufacturing* **2017**, 5, 040905-040905-10.](#)
27. Wang, Y.; Narayanan, S. R.; Wu, W. "Field-Assisted Splitting of Pure Water based on Deep-sub-Debye-Length Nanogap Electrochemical Cells". [*Acs Nano* **11** \(6\), 5836 \(2017\).](#)
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29. Yao, Y.; Wu, W. "All-Dielectric Heterogeneous Metasurface as an Efficient Ultra-Broadband Reflector". [*Advanced Optical Materials* **5** \(14\), 1700090 \(2017\).](#)

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33. Yao, Y. H., Liu, H., Wang, Y. F., Li, Y. R., Song, B. X., Wang, R. P., . . . Wu, W. (2016). *Nanoimprint-defined, large-area meta-surfaces for unidirectional optical transmission with superior extinction in the visible-to-infrared range*. [*Optics Express*](#), [*24*\(14\)](#), 15362-15372. doi: [10.1364/Oe.24.015362](https://doi.org/10.1364/Oe.24.015362)
34. Wang, Y., Stang, J., Yu, M., Tsvetkov, M., Wu, C.-C., Qin, X., . . . Wu, W. (2016). *Microwave Selective Heating Enhancement for Cancer Hyperthermia Therapy Based on Lithographically Defined Micro/Nanoparticles*. [*Advanced Materials Technologies*](#), [*1*\(3\)](#), 1600038-n/a. doi: [10.1002/admt.201600038](https://doi.org/10.1002/admt.201600038)
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37. Li, Y. R., Mao, H. C., Liu, H., Yao, Y. H., Wang, Y. F., Song, B. X., . . . Wu, W. (2015). *Stereolithography with variable resolutions using optical filter with high-contrast gratings*. [*Journal of Vacuum Science & Technology B*](#), [*33*\(6\)06F604.](#)
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39. Yao, Y., Wang, Y., Liu, H., Li, Y., Song, B., & Wu, W. (2015). *Line width tuning and smoothing for periodical grating fabrication in nanoimprint lithography*. [*Applied Physics A*](#), [*121*\(2\), 399-403. doi: \[10.1007/s00339-015-9278-x\]\(https://doi.org/10.1007/s00339-015-9278-x\)](#)
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43. Barcelo, S., Wu, W., Li, X., Li, Z., & Williams, R. S. (2015). *Nanoimprint lithography of plasmonic platforms for SERS applications*. (Invited) [*Applied Physics A*, 121 \(2\), 443-449. doi: 10.1007/s00339-015-9073-8](#)
44. Yuhan Yao, He Liu and Wei Wu, *Fabrication of high contrast grating using nanoimprint lithography and its application in improving solar conversion efficiency by parallel spectrum splitting*, [*Journal of Vacuum Science & Technology B: Microelectronics and Nanometer Structures*, 2014 **32**\(6\)](#)
45. He Liu, Yuhan Yao, Yifei Wang and Wei Wu, *A full color reflective display system based on high contrast gratings*, [*Journal of Vacuum Science & Technology B: Microelectronics and Nanometer Structures*, 2014 **32**\(6\)](#)
46. Yuhan Yao, He Liu and Wei Wu, *Spectrum splitting using multi-layer sub-wavelength high-index-contrast grating for solar energy harvesting efficiency improvement (Invited rapid)*, [*Applied Physics A*, 2014. **115**\(3\): p. 713-719.](#)
47. Cho, D.J., W. Wu, F. Wang, and Y.R. Shen, *Probing the plasmonic band structure of an optical metamaterial*. [*Physical Review B*, 2014. **89**\(3\): p. 035434.](#)
48. Abbas, A.N., G. Liu, B. Liu, L. Zhang, H. Liu, D. Ohlberg, W. Wu, and C. Zhou, *Patterning, Characterization, and Chemical Sensing Applications of Graphene Nanoribbon Arrays Down to 5 nm Using Helium Ion Beam Lithography*. [*Acs Nano*, 2014, 2014. **8**\(2\): p. 1538-1546.](#)
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53. Boxiang Song, Yuhan Yao, Yifei Wang, He Liu, Yuanrui Li, Adam Schwartzberg, Stefano Cabrini and Wei Wu, *Probing Sub-5 nm Gap Plasmon Using Collapsible Nano-fingers*, AVS 63th International Symposium and Exhibition, Nashville, TN, USA, November, 2016
54. Huachao Mao, Yuanrui Li, Yong Chen, Wei Wu, *"Fabrication of macro 3D objects with micro-patterned surfaces using structural laser beams"*, Solid Freeform Fabrication symposium, Austin, Texas, USA August 2016
55. He Liu, Yuanrui Li, Hsiang-Ting Yeh, Yuhan Yao, Dongseok Kang, Jongseung Yoon and Wei Wu, *"Full Color Reflective Display Based on High Contrast Gratings"*, EIPBN 2016, Pittsburg, PA, June 2016
56. Boxiang Song, Yuhan Yao, He Liu, Yifei Wang, Yuanrui Li, Stefano Cabrini, Adam Schwartzberg, Stephen Cronin and Wei Wu, *"Probing Sub-5 nm Gap Plasmon Using Collapsible Nano-fingers"*, EIPBN 2016, Pittsburg, PA, June 2016
57. Yuanrui Li, Huachao Mao, Yuhan Yao, He Liu, Yifei Wang, Boxiang Song, Yong Chen, Wei Wu, *"Multiscale Porous Structure Enabled by Variable Voxel Stereolithography"*, EIPBN 2016, Pittsburg, PA, June 2016
58. Yifei Wang, John Stang, Eugene Chung, Mahta Moghaddam, and Wei Wu, *"Microwave Selective Heating Enhancement for Cancer Hyperthermia Therapy based on Lithographically Defined Micro/Nano-particles"*, EIPBN 2016, Pittsburg, PA, June 2016
59. B. Song, Y. Wang, Y. Yao, Y. Li, H. Liu, S. Cabrini, A. Schwartzberg and W. Wu, *"Probing Sub-*

- 5 nm Gap Plasmon Using Collapsible Nano-fingers*”, NNT(Nanoimprint and Nanoprinting Technology), Napa Valley, CA, 2015
60. He Liu, Yuhan Yao, Shujin Huang, Yifei Wang and Wei Wu, “*Full color reflective display based on high contrast gratings*”, NNT(Nanoimprint and Nanoprinting Technology), Napa Valley, CA, 2015
 61. Yuanrui Li, Ahmed Abbas, Yuhan Yao, Yifei Wang, Wen-Di Li, Chongwu Zhou and Wei Wu, “*Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*”, IEEE NMDC, Anchorage, AK, September 2015
 62. Yuanrui Li, Xuan Song, He Liu, Yuhan Yao, Yifei Wang, Boxiang Song, Yong Chen and Wei Wu, “*Stereolithography with Variable Resolutions using Optical Filters with High-contrast Gratings*”, EIPBN 2015, San Diego, CA May 2015
 63. Yuhan Yao, He Liu, Richard P. Wang, Michelle Povinelli and Wei Wu, “*Fabrication of passive polarization-dependent asymmetric optical devices using nanoimprint lithography*”, EIPBN 2015, San Diego, CA May 2015
 64. Yifei Wang, He. Liu and Wei Wu, “*Low DC-Bias Silicon Nitride Anisotropic Etching*”, EIPBN 2015, San Diego, CA May 2015
 65. Yifei Wang, Meng Yu, John Stang, Yuanrui Li, Mahta Moghaddam and Wei Wu, “*Focused Microwave Cancer Therapy Using Lithographically Defined Nanoparticles*”, EIPBN 2015, San Diego, CA May 2015
 66. Yifei Wang and Wei Wu, “*High-efficiency Water Electrolysis based on Nanoelectrodes*”, EIPBN 2015, San Diego, CA May 2015
 67. Yuhan Yao, He Liu, Yifei Wang, Wen-Di Li, Ahmad N. Abbas, Gang Liu, R. Stanley Williams, Chongwu Zhou and Wei Wu, “*Sub-5 nm Patterning Using Helium Ion Beam Lithography and Nanoimprint lithography*”, SPIE Advanced Lithography, San Jose, CA, February 2015
 68. Yuhan Yao, He Liu, Yifei Wang, Boxiang Song, Yuanrui Li and Wei Wu, “*Line width tuning and smoothing for periodic grating fabrication in nanoimprint lithography*”, SPIE Advanced Lithography, San Jose, CA, February 2015
 69. He Liu, Yuhan Yao, Shujin Huang, Yifei Wang, and Wei Wu, “*High contrast gratings fabricated using nanoimprint lithography for full color reflective display*”, PIERS 2014, Guangzhou, P.R. China, August 2014 (Invited)
 70. Yuhan Yao, He Liu, Shujin Huang, Yifei Wang and Wei Wu, “*Spectrum splitting using multi-layer sub-wavelength high-index-contrast grating for solar energy harvesting efficiency improvement*”, EIPBN 2014, Washington, DC, May 2014
 71. He Liu, Yuhan Yao, and Wei Wu, “*A full color reflective display system based on high contrast gratings*”, EIPBN 2014, Washington, DC, May 2014

72. Yifei Wang, He Liu, Yuhan Yao, Steven J. Barcelo, Zhiyong Li and Wei Wu, “*Nanoimprint Lithography of 3-D Structures for SERS Sensor*”, *Workshop on Flexible SERS Substrates*”, St. Louis, Mo, June 2014 (Invited)
73. He Liu, Wen-Di Li, Ahmad N. Abbas, Yuhan Yao, Gang Liu, Chongwu Zhou and Wei Wu, “*Sub-5 nm Patterning Using Helium Ion Beam Lithography and Nanoimprint lithography*”, Gordon Research Conference on Nanofabrication, Biddeford, ME, June 2014
74. Yifei Wang, He Liu, Yuhan Yao, Steven J. Barcelo, Zhiyong Li and Wei Wu, “*Nanoimprint Lithography of 3-D Structures for SERS Sensor*”, Gordon Research Conference on Plasmonics, Newry, ME, June 2014
75. Wei Wu, “*Sub-5nm patterning using Helium Ion Beam and Nanoimprint Lithography*”, CSTIC 2014, Shanghai, China, March 2014 (Invited)
76. Yuhan Yao, He Liu and Wei Wu, “*Spectrum splitting using multi-layer sub-wavelength HCG for solar energy harvesting efficiency improvement*”, SPIE Photonics West, San Francisco, CA, February 2014
77. He Liu, Yuhan Yao, Shujin Huang and Wei Wu, “*Full Color Reflective Display Based on Resonant Grating*”, SPIE Photonics West, San Francisco, CA, February 2014
78. Yuhan Yao, He Liu and Wei Wu, “*High efficiency solar spectrum splitting using multilayer chirped high-contrast subwavelength grating*” SPIE Optics+Photonics, San Diego, CA, August 2013
79. Wei Wu, “*Sub-5nm patterning using Helium Ion Beam and Nanoimprint Lithography*”, LASERION 2013, Tegernsee, Germany, July 2013 (Invited)
80. Ahmad N. Abbas, He Liu, Yuhan Yao, Gang Liu, Chongwu Zhou, Douglas A. A. Ohlberg, R. Stanley Williams and Wei Wu, “*High-resolution Nanopatterning of Graphene Using Direct Helium Ion Beam Milling*” EIPBN 2013, Nashville, TN, May 2013
81. Zhouyang Zhu, Wen-Di Li, Haixiong Ge and Wei Wu, “*A Light-driven Micro-motor Based on Angular Momentum Transfer through Subwavelength Grating Waveplates*” EIPBN 2013, Nashville, TN, May 2013
82. Peiyan Yang, Wen-Di Li and Wei Wu, “*Forward sputtering of thin films using focus helium ion beam*” EIPBN 2013, Nashville TN, May 2013
83. He Liu, Wen-Di Li, Ahmad N. Abbas, Yuhan Yao, Chongwu Zhou, R. Stanley Williams and Wei Wu, “*Sub-5 nm Patterning Using Helium Ion Beam Lithography and Nanoimprint Lithography*” WNMM 2013, Dearborn, MI, May 2013
84. Wei Wu, Steven J. Barcelo, Ansoon Kim, Min Hu, Fung-Soung Ou, Zhiyong Li and R. Stanley Williams, “*Three Dimensional Patterning using Nanoimprint Lithography for*

Chemical Sensing” IEEE Lithography Workshop 2012, Williamsburg, VA (Invited), June 2012

85. Wen-Di Li, Wei Wu and R. Stanley Williams, “ Demonstration of sub-4 nm nanoimprint lithography using a template fabricated by helium ion beam lithography” The 56th International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (EIPBN'12), Waikoloa, HI, May 2012
86. Zhihong Huang, Wen-Di Li, Charles Santori, Victor M. Acosta, Andrei Faraon, Wei Wu, Toyofumi Ishikawa, R. Stanley Williams and Raymond G. Beausoleil, “Diamond nitrogen-vacancy centers by scanning focused ion beam and annealing” The 56th International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (EIPBN'12), Waikoloa, HI, May 2012
87. Wei Wu, Robert G. Walmsley, Wen-Di Li, Xuema Li and R. Stanley Williams, “A Cost-effective Nanoimprint Machine” SPIE Advanced Lithography 2012, San Jose, CA, February 2012
88. Wen-Di Li, Wei Wu and R. Stanley Williams, “Nanoimprint Templates of 6 nm Half-pitch Lines Fabricated by Helium Ion Beam Lithography” SPIE Advanced Lithography 2012, San Jose, CA, February 2012
89. Steven J. Barcelo, Min Hu, Ansoon Kim, Wei Wu, Zhiyong Li, “New method for selective transfer of nanostructured assemblies onto an arbitrary substrate by nanoimprinting” SPIE Advanced Lithography 2012, San Jose, CA, February 2012
90. Wei Wu, Robert Walmsley, Qiangfei Xia, J. Joshua Yang, Max Zhang, Will Tong, Warren Robinett, Wen-Di Li, Gilberto Medeiros-Ribeiro, and R. Stanley Williams, “Nano-crossbar Circuits Fabricated Using Nanoimprint Lithography”, MRS 2011 Boston, MA, November 2011 (Invited)
91. Wei Wu, Min Hu, Fung-Soung Ou, Zhiyong Li and R. Stanley Williams, “A Molecule Trapping and SERS Sensing Device by 3-D Nanoimprint” The 55th International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (EIPBN'11), Las Vegas, NV, June 2011
92. Wei Wu, Qiangfei Xia, Min Hu, Fung-Soung Ou, Jianhua Yang, William M. Tong, Alexandre M. Bratkovsky, Zhiyong Li, Gilberto Medeiros-Ribeiro, Shih-Yuan Wang, R. Stanley Williams, “Nanoelectronic, nanophotonic, and chemical sensing devices fabricated by nanoimprint” SPIE Advanced Lithography 2011, San Jose, CA (Invited)
93. Wei Wu, Min Hu, Fung Suong Ou, Zhiyong Li and R. Stanley Williams, “Highly Sensitive Surface-enhanced Raman Spectroscopy Sensors by 3-D Nanoimprint Lithography” The 54th International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (EIPBN'10), Anchorage, AK, June 2010

94. Qiangfei Xia, Matthew D. Pickett, J. Joshua Yang, Xuema Li, Wei Wu, Gilberto Medeiros- Ribeiro and R. Stanley Williams, "Nanoscale 2- and 3-Terminal Resistive Switching Devices" The 54th International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (EIPBN'10), Anchorage, AK, June 2010
95. Qiangfei Xia, Matthew D. Pickett, Jianhua J. Yang, Xuema Li, Wei Wu, Gilberto Medeiros-Ribeiro, R. Stanley Williams, "Nanoimprint lithography for novel memristive devices" SPIE Advanced Lithography 2010 San Jose, CA
96. Jingjing Li, Wei Wu and Zhiyong Li, "Polarization selective optical antennas for Raman spectroscopy" SPIE Photonic West, San Jose, CA, January 2010
97. Wei Wu, David Cho, Ekaterina Ponizovskaya, Qiangfei Xia, Alex Bratkovsky, Nick Fang, Ron Shen, S.Y. Wang and R. S. Williams, "Optical Negative Refractive Index Meta-materials at Near IR Wavelength Fabricated by Nanoimprint Lithography" ChinaNano 2009, September 2009, Beijing, P.R. China
98. Wei Wu, William M. Tong, Jonathan Bartman, Yufeng Chen, Robert Walmsley, Zhaoning Yu, Qiangfei Xia, Inkyu Park, Carl Picciotto, Jun Gao, Shih-Yuan Wang, Deborah Morecroft, Joel Yang, Karl K. Berggren, R. Stanley Williams, "*A Cost-effective Nanoimprint Lithography Module and Sub-10 nm Patterning*" ChinaNano 2009, September 2009, Beijing, P.R. China
99. D. Morecroft, J. K. W. Yang, S. Schuster, K. K. Berggren, W. Wu, Q. Xia, R. S. Williams, "Sub-10-nm Pattern Transfer and Nanoimprint Molds" The 53rd International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (EIPBN'09), Marco Island, FL, May 2009
100. Qiangfei Xia, J. Joshua Yang, Wei Wu, Xuema Li and R. Stanley Williams, "Fabrication of Nanoscale Memristor Arrays with One Nanoimprint Lithography Step" The 53rd International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (EIPBN'09), Marco Island, FL, May 2009
101. Qiangfei Xia, Warren Robinett, J. Joshua Yang, Wei Wu, Xuema Li, Will Tong, Gio Ribeiro, Greg Snider, Phil Kuekes and R. Stanley Williams, "Reconfigurable Logic Circuits in a Memristor-Transistor Hybrid Chip" The 53rd International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (EIPBN'09), Marco Island, FL, May 2009 5/29
102. Wei Wu, Qiangfei Xia, Deborah Morecroft, Joel Yang, Karl K. Berggren, Xuema Li, Shih-Yuan Wang, R. Stanley Williams, "Nanoimprint Lithography for Sub-10 nm Complex Patterns" The 53rd International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (EIPBN'09), Marco Island, FL, May 2009
103. Zhiwei Li, Haixiong Ge, Changsheng Yuan, Minghui Lu, Yanfeng Chen, Wei Wu, Qiangfei Xia, R. Stanley Williams, "Patterning Curved Surface Using Hybrid Nanoimprint-Soft Lithography Mold" The 53rd International Conference on Electron, Ion

and Photon Beam Technology and Nanofabrication (EIPBN'09), Marco Island, FL, May 2009 5/27

104. Wei Wu, Qiangfei Xia, Deborah Morecroft, Joel Yang, Karl K. Berggren, Xuema Li, Shih-Yuan Wang, R. Stanley Williams, "Nanoimprint lithography for sub-10-nm complex patterns" SPIE Advanced Lithography 2009 San Jose, CA
105. Q. Xia, W. M. Tong, W. Wu, J. Yang, X. Li, W. Robinett, M. Cumbie, J. E. Ellenson, P. J. Kuekes, R. S. Williams, "Nanoimprint lithography for memristor/CMOS hybrid circuits" SPIE Advanced Lithography 2009 San Jose, CA (Keynote)
106. Jing Tang, Fung Suong Ou, HueiPei Kuo, William Stickle, Shih-Yuan Wang, Wei Wu, Zhiyong Li and R. Stanley Williams, "A bed-of-nails Substrate for Surface Enhanced Raman Scattering (SERS)" SPIE Photonic West, San Jose, CA, January 2009.
107. W. Wu, Q. Xia, D. Morecroft, J. Yang, K.K. Berggren, H. Ge, X. Li, S.-Y. Wang and R.S. Williams, "Nanoimprint Lithography for Sub-10 nm ComplexPatterns" NNT'08 2008, Kyoto, Japan
108. Z. Li, H. Ge, W. Wu, Q. Xia, C. Yuan and Y.Chen, "Nanoimprint-Soft Lithography combined Mold with Ultra-Thin Rigid Patterning Layer on Elastic Support" NNT'08 2008, Kyoto, Japan
109. Jing Tang, Wei Wu, Qiangfei Xia, E. Ponizovskaya, A. M. Bratkovsky, S.-Y. Wang and R. Stanley Williams, "Tunable Optical Gain for Negative Index Materials by Integration of near-Infrared Emitting Nanocrystals", The 52nd International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (EIPBN'08), Portland, OR, May 2008.
110. Q.Xia, W. Tong, W. Wu, J. Yang, X. Li, W. Robinett, M. Cumbie, J. Ellenson, P. Kuekes and R.S. Williams, "Vertical Integration of Memristors with CMOS circuits using Nanoimprint Lithography", The 34th International Conference on Micro- and Nano- Engineering (MNE'08), Athens, Greece, Sept. 15-18, 2008.
111. Q.Xia, J.J. Yang, W.Wu, D.Ohlberg, X. Li and R.S. Williams, "Fabrication Of Amorphous Metallic Nanowires For IC Interconnects By Nanoimprint Lithography", The 52nd International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (EIPBN'08), Portland, OR, May 27-30, 2008.
112. J. K. W. Yang, D. Morecroft, Q. Xia, W. Wu K. K. Berggren, "Sub-15 nm half-pitch nanoimprint molds using high resolution negative tone resist and reactive ion etching" The 52nd International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (EIPBN'08), Portland, OR, May 27-30, 2008.
113. W. Wu, W. M. Tong, J. Bartman, Y. Chen, R. G. Walmsley, Z. Yu, D. Stewart, I. Park, C. E. Picciotto, J. Gao, S-Y Wang, R. S. Williams, "A cost-effective nanoimprint lithography module" SPIE Advanced Lithography 2008 San Jose, CA (invited)

114. Z. Li, J. Borghetti, X Li, D. A. Ohlberg, J. Straznicky, W. Wu, Z Yu, R. S. Williams, “Nanoimprinted crossbar switches integration on silicon MOSFET” SPIE Advanced Lithography 2008 San Jose, CA
115. Spillane, S. M., Xu, Q. F., Fattal, D. A., Wu, W., Kornilovich, P., & Beausoleil, R. G. “Fabrication of nanophotonic structures for information processing” SPIE Photonics West 2008 San Jose, CA
116. W. Wu, E. Kim, E. Ponizovskaya, Y. Liu, Z. Yu, A. Bratkovski, N. Fang, X. Zhang, R. Shen, S. Y. Wang and R. S. Williams, “Optical Meta-materials at IR Wavelength Fabricated by Nanoimprint Lithography” NNT’07 2007 Paris, France (invited)
117. W. Wu, E. Kim, E. Ponizovskaya, Y. Liu, Z. Yu, A. Bratkovski, N. Fang, X. Zhang, R. Shen, S. Y. Wang and R. S. Williams, “Optical Meta-materials at IR Wavelength Fabricated by Nanoimprint Lithography” MNE07 2007 Copenhagen, Denmark (invited)
118. W. Wu, E. Kim, E. Ponizovskaya, Y. Liu, Z. Yu, A. Bratkovski, N. Fang, X. Zhang, R. Shen, S. Y. Wang and R. S. Williams, “Tunable Optical Meta-materials at Near IR Wavelength Fabricated by Nanoimprint Lithography” China Nano 2007 Beijing, China
119. Wei Wu, William M. Tong, Jonathan Bartman, Yufeng Chen, Zhaoning Yu, Duncan Stewart, Inkyu Park, Carl Picciotto, Jun Gao, Robert Walmsley, Shih-Yuan Wang, R. Stanley Williams, “A Cost-effective Nanoimprint Lithography Module” EIPBN 2007, Denver, Co
120. W. Wu, E. Kim, E. Ponizovskaya, Y. Liu, Z. Yu, A. Bratkovski, N. Fang, X. Zhang, R. Shen, S. Y. Wang and R. S. Williams, “Optical Meta-materials at IR Wavelength Fabricated by Nanoimprint Lithography” SPIE Advanced Lithography 2007 San Jose, CA (Keynote)
121. W. Wu, E. Kim, E. Ponizovskaya, Y. Liu, Z. Yu, A. Bratkovski, N. Fang, X. Zhang, R. Shen, S. Y. Wang and R. S. Williams, “Fabrication of Optical Meta-structure at Infrared Range using Nanoimprint Lithography” SPIE Photonics West 2007 San Jose, CA (invited)
122. W. Wu, E. Kim, Y. Liu, Z. Yu, A. Bratkovski, E. Ponizovskaya, N. Fang, X. Zhang, R. Shen, S. Y. Wang and R. S. Williams, “Fabrication of Optical Negative Index Meta-structure at Infrared Range using Nanoimprint Lithography” International Symposium on Biophotonics, Nanophotonics and Metamaterials 2006 October Hangzhou, China (invited)
123. W. Wu, E. Kim, Y. Liu, Z. Yu, A. Bratkovski, E. Ponizovskaya, N. Fang, X. Zhang, S. Y. Wang and R. S. Williams, “Fabrication of Optical Negative Index Meta-structure at Infrared Wavelength using Nanoimprint Lithography” Optics east Boston, MA 2006 October

124. W. Wu, Y. Liu, E. Kim, Z. Yu, A. Bratkovski, E. Ponizovskaya, N. Fang, X. Zhang, S. Y. Wang and R. S. Williams, "Fabrication of Optical Negative Index Meta-structure at sub-10 micron Infrared Range using Nanoimprint Lithography" EIPBN 2006, Baltimore, MD
125. W. Wu, Z. Yu, Y. Liu, P. Chaturvedi, E. Kim, A. Bratkovski, E. Ponizovskaya, N. Fang, X. Zhang, S. Y. Wang and R. S. Williams, "Fabrication of Optical Negative Index Meta-structure at sub-10 micron using Nanoimprint Lithography" MRS spring Meeting 2006 (invited)
126. J. Gao, C. E. Picciotto, W. Wu, I. Park and W. M. Tong, "nDSE-based overlay alignment: enabling technology for nano metrology and fabrication" SPIE International Symposium on Microlithography 2006, San Jose, California
127. W. Wu, G. Y. Jung, Y. Chen, R. S. Williams et. al., "Nanoimprint Lithography and Applications at HP Labs" SPIE Optics east Boston, MA 2005 October (invited)
128. W. Wu, G. Y. Jung, Z. Yu, R. S. Williams et. al., "Four Kilobits Crossbar Molecular Scale Memory at 30 nm Half-pitch with Integrated MUX/DEMUX Fabricated by Nanoimprint Lithography" SPIE Optics east Boston, MA 2005 October (invited)
129. W. Wu, G. Y. Jung, Z. Yu, R. S. Williams et. al., "Four Kilobits Crossbar Molecular Scale Memory at 30 nm Half-pitch with MUX/DEMUX Fabricated by Nanoimprint Lithography" EIPBN 2005, Orlando, FL
130. W. Wu, G.Y. Jung, S.Y. Wang, R.S. Williams et al., "One kilobit Cross-bar Molecular Memory Circuits at 30 nm Half Pitch Fabricated by a Double-layer Nanoimprint Lithography (NIL) Process" SPIE International Symposium on Microlithography 2005, San Jose, California
131. W. Wu, G.Y. Jung, S.Y. Wang, R.S. Williams et al., "One kilobit Cross-bar Molecular Memory Circuits at 30 nm Half Pitch Fabricated by Nanoimprint Lithography" NNT'04, Vienna, Austria 2004
132. W. Wu, H. Ge, G.Y. Jung, S.Y. Wang, R.S. Williams et al., "Cross-linked Polymer Replica of a Nanoimprint Mold" NNT'04, Vienna, Austria 2004
133. W. Wu, H. Ge, M. Austin, X. Huang, M. Li, N. Li, H. Tan, X. Lei, Q. Xia, H. Gao, S. Y. Chou, "Photo-curable Nanoimprint Lithography with Sub-5 nm Resolution, Sub-14 nm Pitch, and Sub-500 nm Alignment Using Spin-Coated Top Resist Layer and Single 4" Imprint Field" EIPBN 2004
134. Wei Wu, Jian Gu, Nianhua Li, Haixiong Ge and Stephen Y. Chou, "NanoImprint Lithography (NIL) on Si Single Electron Memory Fabrication" NNT(nanoimprint and nanoprinting technology) 2002
135. Wei Wu, Jian Gu and Stephen Y. Chou, "Fabrication of Si Single Electron Memory Working at Room Temperature by NanoImprint Lithography (NIL)" EIPBN 2002

136. J. Gao, E. Hoarau, W. Jackson, C. Picciotto and W. Wu, "Displacement Sensing for Overlay Alignment for Nanoimprint Lithography" NNT'04, Vienna, Austria 2004
137. A. S. P. Chang, K. Morton, P. Murphy, H. Tan, W. Wu and S. Y. Chou, "Tunable Liquid Crystal-Resonant Grating Filters using Superimposed Grating Structures Fabricated by Nanoimprint Lithography" IEEE/LEOS 2004
138. Micheal D. Austin, Haixiong Ge, Wei Wu, Dan Wasserman, Stephen Lyon, and Stephen Y. Chou, "Fabrication of 5 nm line width and 15 nm pitch features by nanoimprint lithography" NNT 2003
139. Nianhua Li, Wei Wu, and Stephen Y. Chou, "Sub-100 nm alignment accuracy in nanoimprint lithography using moiré fringe method" NNT 2003
140. Bo Cui, Chris Keimel, Zhaoning Yu, Wei Wu, and Stephen Chou, "Ultrafast planarization of 200 nm period copper grating by pulsed laser" NNT 2003
141. Allan S.P. Chang, Han Cao, Wei Wu, and Stephen Y. Chou, "A novel all-optical switch fabricated by nanoimprint lithography" NNT 2003
142. Allan S.P. Chang, Wei Wu, and Stephen Y. Chou, "Cascaded subwavelength resonant grating filters for flat-top spectral response" CLEO 2003
143. Zhaoning Yu, He Gao, Wei Wu, and Stephen Y. Chou, "Fabrication of Large Area Subwavelength Structured Antireflection Surface on Si Using Trilayer Resist NanoImprint Lithography and Lift-off" EIPBN 2003
144. P. Deshpande, Z. Yu, W. Wu, M. Li, B. Cui, X. Lei and S. Y. Chou, "3-D NanoStructure Fabrication by Nanoimprint Lithography & Lithographically Induced Self-assembly" MRS Meeting 2002
145. B. Cui, W. Wu, S. Chou and L. Kong, "Fabrication of Magnetic Nanostructures and Quantized Magnetic Disks, and Spin-Valve Devices by Nanoimprint Lithography" NNT 2002
146. Chang, H. Tan, B. Bai, W. Wu, Z. Yu and S. Chou, "Tunable External Cavity Laser Using Subwavelength Resonant Gratings" NNT 2002
147. Stephen Y. Chou, Wei Zhang, Mingtao Li, Hua Tan, Wei Wu, et. al., "Nanoimprint Lithography Development at Princeton University" NNT 2002
148. Q. Xia, C. Keimel, H. Ge, Z. Yu, W. Wu and S. Chou, "Nanosecond Patterning of Nanostructures in Polymers Using Laser-Assisted NanoImprint Lithography (LA-NIL)" NNT 2002
149. Z. Yu, X. Lei, M. Li, H Tan, A. Chang, S. Bai, H. Gao, W. Wu and S. Chou, "Application of Nanoimprint Lithography in Subwavelength Optical Elements" NNT 2002

150. M. Li, H. Tan, L. Chen, J. Wang, H. Ge, W. Wu, and S. Chou, "Large Area Direct Nanoimprinting of SiO₂-TiO₂ Gel Grating for Optical and Nanofluidic Applications" NNT 2002
151. Jian Gu, Wei Wu and Stephen Y. Chou, "High performance Sub-100 nm Si Thin-film transistors by Pattern-controlled Crystallization of Thin Channel Layer and High Temperature Annealing" IEEE DRC 2002
152. Allan S.P. Chang, S. Bai, H. Tan, Wei Wu, Z. Yu and Stephen Y. Chou, "A Novel, Simple and Low-cost External Cavity Laser using Sub-wavelength Resonant Grating-Waveguide Filter" IEEE LEOS 2002
153. H. Tan, Allan S.P. Chang, Wei Wu, Z. Yu, S. Bai and Stephen Y. Chou, "A Tunable Subwavelength Resonant Grating Optical Filter" IEEE LEOS 2002
154. Allan S.P. Chang, Wei Wu, and Stephen Y. Chou, "Resonant Grating-Waveguide Filters Fabricated by Nanoimprint Lithography" IEEE LEOS 2001 (Best student paper)
155. Zhaoning Yu, Wei Wu, Lei Chen and Stephen Y. Chou, "Fabrication of Large Area ~100nm Period Grating Structures by Spatial Frequency-Doubling and Nanoimprint Lithography for Subwavelength Optical Applications" EIPBN2001
156. Hua Tan, Lei Chen Mingtao Li, Jian Wang, Wei Wu and Stephen Y. Chou, "Direct Nanoimprint of Sub-100 nm SiO₂-TiO₂ Gel Structures for Optical Applications" EIPBN2000
157. J Wang, Z Yu, W Wu and S Chou, "Fabrication of a new Broadband Waveguide Polarizer with Double-layer 190nm Period Metal-gratings using Nanoimprint Lithography" EIPBN99
158. S. Chou, L. Zhang, W. Wu and X. Sun, "Lithographically-induced self-assembly of periodic polymer microstructures" EIPBN99
159. S. Chou, L. Kong, B. Cui, W. Wu, "Patterned Magnetic Nanostructure and Quantized Magnetic Disks" APS Centennial
160. L. Kong, X. Sun, W. Wu and S. Chou, "Reading and writing of longitudinal quantized magnetic disks with densities up to 30 Gbits/in²" MMM98
161. Wei Wu, Bo Cui, Xiao-yun Sun, Wei Zhang, Lei Zhuang, Linshu Kong, and Stephen Y. Chou, "Large area high density quantized magnetic disks fabricated using nanoimprint lithography" EIPBN98
162. B. Cui, W. Wu, X. Sun, and S. Chou, "Large area quantized magnetic disks(QMDs) fabricated by using nanoimprint lithography and electroplating" MMM98

Other invited talks (only those after joining USC are listed):

1. Wei Wu, *A Memristor-based Hybrid Analog-digital Cerebellum (small brain) for Mobile Robotics*, UC Irvine, September 2023
2. Wei Wu, *A Memristor-based Hybrid Analog-digital Computing Platform for Mobile Robotics*, MIT.nano Seminar, online (hosted by MIT), February 2022
3. Wei Wu, *A Memristor-based Hybrid Analog-digital Computing Platform for Mobile Robotics*, Micron's Technical Leadership Program invited talk, online (hosted by Micron Inc.), February 2022
4. Wei Wu, *Plasmonic Structures with Atomic Precision and Applications Fabricated Using Collapsible Nano-Fingers and Nanoimprint Lithography*, Zhejiang University, online, April 2022
5. Wei Wu, *A Memristor-based Hybrid Analog-digital Computing Platform for Mobile Robotics*, NCCAVS TFUG meeting, online, November 2021
6. Wei Wu, *New Frontiers on Nanotechnology: Nano-electrochemical Cells, Plasmonics, and Memristors*, University of Hong Kong, Hong Kong, China 2019
7. Wei Wu, *Nano-photonics, Plasmonics, and Memristor*, UC Riverside, Riverside, CA, October 2018
8. Wei Wu, *Nano-photonics, Nano-electrochemical Cell, and Memristor*, Sandia National Lab, Livermore, CA, August 2018
9. Wei Wu, *Nanoimprint Lithography*, Orlando, FL, May 2017 (short course for EIPBN)
10. Wei Wu, *Sub-5 nm Patterning and Applications*, George Tech, Atlanta, Ga, USA, March 2017 (Invited by OSA Georgia Tech student branch)
11. Wei Wu, *Sub-5 nm Patterning and Applications*, UC Irvine, Irvine, CA, USA, February 2017
12. Wei Wu, *Sub-5 nm Patterning and Applications*, University of Pittsburg, Pittsburg, PA, USA, December 2016 (IEEE distinguished lecture)
13. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, McGill University, Montreal, Québec, Canada, October, 2016
14. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, CEGN center workshop, UCLA, Los Angeles, CA, USA, September, 2016

15. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, University of Michigan, Ann Arbor, MI, USA, August, 2016 (IEEE distinguished lecture)
16. Wei Wu, *Nanoimprint Lithography and Applications*, IEEE Nanotechnology Summer School, Santa Clara, CA, USA, June, 2016 (IEEE distinguished lecture)
17. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, Cornell University, Ithaca, NY, USA, December, 2015 (IEEE distinguished lecture)
18. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, University of Texas at Dallas, Dallas, TX, USA, December, 2015 (IEEE distinguished lecture)
19. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, Institute of Microelectronics, Chinese Academy of Science, Beijing, China, December, 2015 (IEEE distinguished lecture)
20. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, Tsinghua University, Beijing, China, December, 2015 (IEEE distinguished lecture)
21. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, North California AVS meeting, Santa Clara, CA, USA< September, 2015
22. Wei Wu, *Nano-engineered Artificial Materials and Applications*, Information Technology Workshop (ITWS) Huawei Technologies Co., Shenzhen, Guangdong, China, May 2015
23. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, University of Science and Technology Beijing, Beijing, China, December, 2014
24. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, Hebei University of Technology, Tianjin, China, December, 2014
25. Wei Wu, *Nanoimprint Lithography and Application*, illumine Inc., San Diego, CA, November, 2014

26. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, University of Illinois at Chicago, Chicago, IL, USC, October, 2014
27. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, University of British Columbia, Vancouver, BC, Canada, September, 2014
28. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, Corning Research, Corning Inc., Corning, NY, USA, May, 2014
29. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, UC Riverside, Riverside, CA, USA, May, 2014
30. Wei Wu, *Sub-5nm patterning using Helium Ion Beam and Nanoimprint Lithography*, IEEE San Francisco Bay Area Nanotechnology annual symposium, Santa Clara, CA, USA, April, 2014
31. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, Huazhong University of Science and Technology, Wuhan, Hubei, China, March, 2014
32. Wei Wu, *Sub-5 nm Patterning and Applications by Nanoimprint Lithography and Helium Ion Beam Lithography*, Nanjing University, Nanjing, Jiangsu, China, March, 2014
33. Wei Wu, *Pursuing the End of Roadmap: Combining Nanoimprint Lithography and Helium Ion Lithography*, UC Riverside, Riverside, CA, USA, February, 2013
34. Wei Wu, *Nanoimprint Lithography and Application in Nano-electronics, Nano-photonics and Chemical Sensing*, Nanjing University, Nanjing, Jiangsu, China, May, 2012
35. Wei Wu, *Nanoimprint Lithography and Application in Nano-electronics, Nano-photonics and Chemical Sensing*, Fudan University, Shanghai, China, May, 2012
36. Wei Wu, *Nanoimprint Lithography and Application in Nano-electronics, Nano-photonics and Chemical Sensing*, Peking University, Beijing, China, May, 2012

Current and Past Ph.D. Student:

Name	Start Date	Screening Date	Qualifying Date	Dissertation Topic/Progress

Yuhan Yao	8/2012	Spring 2014	Spring 2016	Graduated May, 2017 Current position: Senior VP, Bosch Group
He Liu	8/2012	Spring 2014	Spring 2016	Graduated May, 2017 Current position: Apple Inc.
Yifei Wang	8/2013	Spring 2015	Fall 2016	Graduated December, 2017 Current position: Apple Inc.
Boxiang Song	8/2014	Spring 2016	Summer 2018	Graduated January, 2020 Current position: Associate Professor HUST, Wuhan, China
Yuanrui Li	8/2015	Spring 2017	Spring 2018	Graduated May, 2019 Current position: Meta Inc.
Hao Yang	8/2016	Spring 2018	Spring 2020	Graduated December 2021 Current position: Apple Inc.
Buyun Chen	8/2017	Spring 2019	Spring 2021	Graduated June 2022 Current position: Apple Inc.
Deming Meng	8/2017	Spring 2019	Fall 2021	Graduated December 2022 Current position: Applied Materials Inc.
Pan Hu	8/2018	Spring 2010	Summer 2022	Graduated May 2023 Current position: Apple Inc.
Tse-Hsien Ou	8/2018	Spring 2010	Spring 2022	Graduated August 2023 Current position: Applied Materials Inc.
Yunxiang Wang	8/2018	Spring 2010	Spring 2023	Graduated May, 2024 Current position: Meta Inc.
Zerui Liu	1/2021	Spring 2023	Fall 2023	
Sushmit Hossain	8/2021	Spring 2023		
Jiacheng Ye	8/2020	Spring 2022		
Nishat Tasnim Hiranomy	8/2023			
Hongming Zhang	Transferred from Han Wang's group			
Ting-Hao Hsu	Transferr ed from Han Wang's group			

Other Ph.D. Thesis Committee Served

Yes Zhuo, Ragib Ahsan, Kaiheng Zou, Bofan Zhao, Huandong Chen, Jiahui Ma, Yiwen Cao, Huan Zhao, Fanqi Wu, Bingya Hou, Anyi Zhang, Fatemeh Rezaeifar, Majid Ali Albahkali, Victoria Sun, Yihang Liu, Huachao Mao, Amirhossein Mohajerin Ariaei, Samantha Elizabeth McBirney, Vinh Diep, Changjing Bao, Shaohua Wu, Sen Cong, Zeyu Chen, Liang Chen, Yuqiang Ma, Soheil Soltani, Patrick Duke Anderson, Yu Cao, Xuan Cao, Kai Xu, Rohan Dhall, Rui Yang (University of Illinois at Chicago), Xiaolu Ma, Hui Gui, Ahmad Nabil Abbas, Yufeng Wang, Zhen Li, Guanbo Chen, Yongxiong Ren, Dongseok Kang, Luyao Zhang, Shermin Arab, Ningfeng Huang, Roshni Biswas, Gina Adams (UCSB), Chenxi Lin, ChunYung Chi, Yenting Lin, Jiepeng Rong, Yayue Pan, Shun-Wen Chang, Haitian Chen, Eric Jaquay, Yingying Xiao Li, Moh Amer, Yuchi Che, Pavaskar Prathamesh

Master students mentored

Zerui Liu (became my Ph.D. student after M.S.), Tse-Hsien Ou (became my Ph.D. student after M.S.), Pan Hu (became my Ph.D. student after M.S.), Deming Meng (became my Ph.D. student after M.S.), Viola Shi, Geyu Yan, Aashna Sethi, Aditi Samant, Amber Garg, Bhargav Srinath, Fangxiang Wang, Jiayi Chen, Jubin Hazra, Kyle Cheng, Meng Yu, Shashikant People, Shival Trivadi, Sumukh Metawal, Yiduo Zhang, Yuan-Jung Lin, Shujin Huang, Ruoxi Li, Shujie Cao, Ximing Zheng

Undergraduate students mentored

Buyun Chen (became my Ph.D. student later), Yunxiang Wang (became my Ph.D. student later), Sonia Zhang, Vanessa Pangbourne, Brandon Carlson, Peiyan Yang, Liyang Chen.

High school students mentored

Jackson Justus, Norah Zhu, Max Zhang, Aurola Qin, Peter Wang

List of Courses Taught:

Semester	Course No.	Course Title	Credit Hours	No. of Students	Student's Instructor Rating (Max=5)
Fall 2012	EE599	Introduction to Nanofabrication	3	16	4.94
Fall 2013	EE 599	Introduction to Nanofabrication A	3	24	4.78
Spring 2014	EE 599	Introduction to Nanofabrication B	3	39	4.76
Fall 2014	EE 508	Introduction to Nanofabrication - Lithography	3	51	4.69
Spring 2015	EE 507	Introduction to Nano- and Micro-fabrication	3	44	4.81
Fall 2015	EE 508	Introduction to Nanofabrication - Lithography	3	35	4.76

Spring 2016	EE 507	Introduction to Nano- and Micro-fabrication	3	19	4.67
Fall 2016	EE 508	Introduction to Nanofabrication - Lithography	3	27	4.54
Spring 2017	EE 507	Introduction to Nano- and Micro-fabrication	3	34	4.71
Fall 2017	EE 508	Introduction to Nanofabrication - Lithography	3	43	4.81
Spring 2018	EE5 07	Introduction to Nano- and Micro-fabrication	3	47	4.55
Fall 2018	EE 508	Introduction to Nanofabrication - Lithography	3	46	4.5
Spring 2019	EE 507	Introduction to Nano- and Micro-fabrication	3	40	4.67
Fall 2019	EE 508	Introduction to Nanofabrication - Lithography	3	20	4.47
Spring 2020	EE 507	Introduction to Nano- and Micro-fabrication	3	28	4.53
Fall 2020	EE 507	Introduction to Nano- and Micro-fabrication	4	11	4.29
Spring 2021	AME 577	Power and Energy Issues for a Sustainable Future	3	33	3.71
Fall 2021	EE 507	Introduction to Nano- and Micro-fabrication	4	21	4.85
Fall 2021	EE 338	Physical Electronics	3	11	4.00
Spring 2022	AME 577/EE 626	Power and Energy Issues for a Sustainable Future	3	12+24 (In person + online)	4.5/3.77
Spring 2023	AME 577/EE 626	Power and Energy Issues for a Sustainable Future	4	26+16 (In person + online)	4.14/4.0

Fall 2023	EE 507	Introduction to Nano- and Micro-fabrication	4	38	4.88
Spring 2024	AME 577/EE 626	Power and Energy Issues for a Sustainable Future	4	16+13 (In person + online)	4.71/4.50

New Courses Developed:

EE508 Introduction to Nanofabrication – Lithography

EE507 Introduction to Nano- and Micro- fabrication

AME577/EE626: Survey of Energy and Power for a Sustainable Future (total re-develop of an existing course)

Editorial and Review:

- Regional editor (North America), *Nanomanufacturing and Metrology* (from 2021)
- Co-editor, *Applied Physics A Materials Science & Processing* (from 2012)
- Associate editor, *IEEE Transaction on Nanotechnology* (from 10/2015)
- Associate editor, *Nanomaterials* (from 2022)
- Guest editor, *Special issue on “Nanoimprint lithography”, Applied Physics A* (2015)
- Guest editor, *Special session on “Alternative Lithography Technologies”, The Journal of Micro/Nanolithography, MEMS, and MOEMS (JM3)* (2017)
- Advisor, *SPIE Newsroom* (nanotechnology)
- Reviewer of *Nature Nanotechnology, Nanoletters, ACS Nano, Applied Physics Letter, Applied Physics A, Nanotechnology, Advanced Materials, Advanced Functional Materials, Langmuir, Nanoscale Research, Scientific report, ACS Photonics...*
- Reviewer of nanofabrication user program, molecular foundry, LBNL, DOE
- Reviewer of Nanomanufacturing, CMMI, National Science Foundation
- Reviewer of International Space Station U.S. National Laboratory

Conference Committee and Community Services

- Program Chair, Electron, Ion, Photon beam technology and nanofabrication (EIPBN), 2024
- Executive committee (elected), Electron, Ion, Photon beam technology and nanofabrication (EIPBN), 2021-now
- Chair of Nanofabrication Technical committee (TC3), Nanotechnology Council, IEEE, 2016-now
- Executive committee (elected), Nanometer-Scale Science and Technology Division (NSTD), AVS. 2015- 2017
- Chair, Nanoimprint program, Electron, Ion, Photon beam technology and nanofabrication (EIPBN), 2017-2019

- Program committee, Electron, Ion, Photon beam technology and nanofabrication (EIPBN), 2013-now
- Program committee, Nanoimprint and Nanoimprinting Technology (NNT), 2006-now
- Program committee, Alternative Lithographic Technologies, SPIE Advance lithography, 2006-now
- IEEE SF Bay Area Nanotechnology council executive committee 2005-2011, and elected officer 2007, 2008 and 2010
- Member of the program advisory group of the Lithography program, SEMATECH (representing HP), 2010-2011

University Service

- Committee Chair, Munushian Seminar Committee, 2012-2021
- Committee Member, Faculty Recruiting Committee, 2012-2014
- Committee Member, Screening Committee, 2021-2022
- Committee Member, Website Committee, 2020-now
- Committee Member, Viterbi School APT Committee, 2020-2022
- Committee Member, Viterbi School Sustainability Retreat Steering Committee, 2023-now