

## Wei Ting CHEN, Ph.D.

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### Scholarly Profile

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My research focuses on developing revolutionary flat optical devices for imaging and sensing applications. I have published 57 peer-reviewed journal papers in the fields of metasurfaces, nanophotonics and plasmonics. Most of them are highly cited with a total citation of more than 13,841 and H-index of 46.

### Research Experience

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- 2022 – Present**      **Chief Technology Officer, SNOChip Inc.**
- 2020 – 2022**      **Senior Staff Engineer, ams Sensors USA Inc.**
- 2018 – 2020**      **Research Associate, Harvard University**  
Harvard John A. Paulson School of Engineering and Applied Sciences  
Faculty Advisor: Prof. Federico Capasso
- 2015 – 2018**      **Postdoctoral Researcher, Harvard University**  
Harvard John A. Paulson School of Engineering and Applied Sciences  
Faculty Advisor: Prof. Federico Capasso
- 2011 – 2012**      **Visiting Researcher, University of Southampton**  
Optoelectronics Research Centre  
Faculty Advisor: Prof. Nikolay I. Zheludev

### Education

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- 2014**      **Ph.D. in Applied Physics, National Taiwan University**  
Thesis: Reflective plasmonic meta-surfaces for applications in meta-devices  
(Graduated with Dean's Award)  
Faculty Advisor: Prof. Din Ping Tsai
- 2011**      **M.S. in Physics, National Taiwan University**  
Thesis: Electromagnetic energy vortex associated with sub-wavelength plasmonic  
Taiji marks (Graduated with Dean's Award)  
Faculty Advisor: Prof. Din Ping Tsai
- 2008**      **B.S. in Applied Physics, National University of Kaohsiung**

### Publications

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Fifty-seven peer-reviewed journal papers (total citations: 13,840, h-index: 46, i10-index: 56 according to Google Scholar).

#### • Selected Publications

**Wei Ting Chen, Federico Capasso, "Will flat optics appear in everyday life anytime soon?"**  
Applied Physics Letters 118(10), 100503 (2021)

- W. T. Chen**, A. Y. Zhu, F. Capasso, "Flat optics with dispersion-engineered metasurfaces," *Nature Reviews Materials* **5**, 604–620 (2020)
- W. T. Chen**, A. Y. Zhu, J. Sisler, Z. Bharwani and F. Capasso, "A broadband achromatic polarization-insensitive metalens consisting of anisotropic nanostructures" *Nature Communications* **10**, 355 (2019)
- W. T. Chen**, A. Y. Zhu, V. Sanjeev, M. Khorasaninejad, Z. Shi, E. Lee and F. Capasso, "A broadband achromatic metalens for focusing and imaging in the visible" *Nature Nanotechnology*, **13**, 220–226 (2018)
- W. T. Chen**, A. Y. Zhu, J. Sisler, Y.-W. Huang, K. M. A. Yousef, E. Lee, C.-W. Qiu and F. Capasso, "Broadband Achromatic Metasurface-Refractive Optics" *Nano Letters*, **18**, 12, 7801-7808 (2018)
- M. Khorasaninejad\*, **W. T. Chen\***, R. C. Devlin\*, J. Oh, A. Y. Zhu and F. Capasso, "Meta-Lenses at Visible Wavelengths: Diffraction-Limited Focusing and Sub-Wavelength Resolution Imaging" *Science* **352**, 1190 (2016)
- W. T. Chen**, K.-Y. Yang, C.-M. Wang, Y.-W. Huang, G. Sun, I.-D. Chiang, C. Y. Liao, W.-L. Hsu, H. T. Lin, S. Sun, L. Zhou, A.-Q. Liu, D. P. Tsai, "High-efficiency broadband meta-hologram with polarization-controlled dual images" *Nano Letters* **14**, 225-230 (2014)

#### • Published

- [1] Mikhail Mamaikin, Yik-Long Li, Enrico Ridente, **Wei Ting Chen**, Joon-Suh Park, Alexander Y Zhu, Federico Capasso, Matthew Weidman, Martin Schultze, Ferenc Krausz, Nicholas Karpowicz, "Electric-field-resolved near-infrared microscopy" *Optica* **9**(6), 616-622 (2022)
- [2] Jaewon Oh, Kangmei Li, Jun Yang, **Wei Ting Chen**, Ming-Jun Li, Paulo Dainese, Federico Capasso, "Adjoint-optimized metasurfaces for compact mode-division multiplexing" *ACS photonics* **9**(3), 929-937 (2022)
- [3] Marcus Ossiander, Y. -W. Huang, **Wei Ting Chen**, Zhenhao Wang, Xinghui Yin, Yousef Ahmed Ibrahim, Martin Schultze, Federico Capasso, "Slow light nanocoatings for ultrashort pulse compression" *Nature communications* **12**(1), 6518 (2021)
- [4] Peng Lin, **Wei Ting Chen**, Kerolos MA Yousef, Justin Marchioni, Alexander Zhu, Federico Capasso, Ji-Xin Cheng, "Coherent Raman scattering imaging with a near-infrared achromatic metalens" *APL photonics* **6**(9), 096107 (2021)
- [5] **Wei Ting Chen**, Federico Capasso, "Will flat optics appear in everyday life anytime soon?" *Applied Physics Letters* **118**(10), 100503 (2021)
- [6] Zhaoyi Li, Peng Lin, Yao-Wei Huang, Joon-Suh Park, **Wei Ting Chen**, Zhujun Shi, Cheng-Wei Qiu, Ji-Xin Cheng, Federico Capasso, "Meta-optics achieves RGB-achromatic focusing for virtual reality" *Science Advances* **7**(5), eabe4458 (2021)
- [7] A.A. Loya Villalpando, J. Martín-Albo, **W.T. Chen**, R. Guenette, C. Lego, J.S. Park and F. Capasso, "Improving the light collection efficiency of silicon photomultipliers through the use of metalenses" *Journal of Instrumentation* **15**, P11021 (2020)
- [8] **W. T. Chen**, A. Y. Zhu, F. Capasso, "Flat optics with dispersion-engineered metasurfaces" *Nature Reviews Materials* **5**, 604–620 (2020)
- [9] M. Piccardo, B. Schwarz, D. Kazakov, M. Beiser, N. Opačak, Y. Wang, S. Jha, J. Hillbrand, M. Tamagnone, **W. T. Chen**, A. Y. Zhu, L. L. Columbo, A. Belyanin, F. Capasso, "Frequency combs induced by phase turbulence" *Nature* **582**, 360-364 (2020)
- [10] Z. Shi, A. Y. Zhu, Z. Li, Y.-W. Huang, **W. T. Chen**, C.-W. Qiu, F. Capasso, "Continuous angle-tunable birefringence with freeform metasurfaces for arbitrary polarization

conversion" *Science Advances* **6**, eaba3367 (2020)

- [11] J. Sisler, **W. T. Chen**, A. Y. Zhu, F. Capasso, "Controlling dispersion in multifunctional metasurfaces" *APL Photonics* **5**, 056107 (2020)
- [12] J.-S. Park, S. Zhang, A. She, **W. T. Chen**, P. Lin, K. M. A. Yousef, J.-X. Cheng, and F. Capasso, "All-glass, large metalens at visible wavelength using deep-ultraviolet projection lithography" *Nano Lett.* **19**, 8673-8682 (2019)
- [13] L. Jin, Y.-W. Huang, Z. Jin, R. C. Devlin, Z. Dong, S. Mei, M. Jiang, **W. T. Chen**, Z. Wei, H. Liu, J. Teng, A. Danner, X. Li, S. Xiao, S. Zhang, C. Yu, J. K. W. Yang, F. Capasso, and C.-W. Qiu, "Dielectric multi-momentum meta-transformer in the visible" *Nat. Commun.* **10**, 4789 (2019)
- [14] N. A. Rubin, G. D'Aversa, P. Chevalier, Z. Shi, **W. T. Chen**, F. Capasso, "Matrix Fourier optics enables a compact full-Stokes polarization camera" *Science* **365**, 6448, eaax1839 (2019)
- [15] M. Decker, **W. T. Chen**, T. Nobis, A. Y. Zhu, M. Khorasaninejad, Z. Bharwani, F. Capasso, and J. Petschulat, "Imaging performance of polarization-insensitive metalenses" *ACS Photonics* **6**, 6, 1493-1499 (2019)
- [16] **W. T. Chen**, A. Y. Zhu, J. Sisler, Z. Bharwani and F. Capasso, "A broadband achromatic polarization-insensitive metalens consisting of anisotropic nanostructures" *Nature Communications* **10**, 355 (2019)
- [17] A. Y. Zhu, **W. T. Chen**, J. Sisler, K. M. A. Yousef, E. Lee, Y.-W. Huang, C.-W. Qiu and F. Capasso, "Compact Aberration-Corrected Spectrometers in the Visible Using Dispersion-Tailored Metasurfaces" *Advanced Optical Materials* **7**, 1801144 (2019)
- [18] **W. T. Chen**, A. Y. Zhu, J. Sisler, Y.-W. Huang, K. M. A. Yousef, E. Lee, C.-W. Qiu and F. Capasso, "Broadband Achromatic Metasurface-Refractive Optics" *Nano Letters* **18**, 12, 7801-7808 (2018)
- [19] **W. T. Chen**, A. Y. Zhu, V. Sanjeev, M. Khorasaninejad, Z. Shi, E. Lee and F. Capasso, "A broadband achromatic metalens for focusing and imaging in the visible" *Nature Nanotechnology* **13**, 220–226 (2018)
- [20] A. Y. Zhu, **W. T. Chen**, A. Zaidi, Y.-W. Huang, M. Khorasaninejad, V. Sanjeev, C.-W. Qiu and F. Capasso, "Giant intrinsic chiro-optical activity in planar dielectric nanostructures" *Light: Science & Applications* **7**, e17158 (2018)
- [21] Z. Shi, M. Khorasaninejad, Y.-W. Huang, C. R. Cames, A. Y. Zhu, **W. T. Chen**, V. Sanjeev, Z.-W. Ding, M. Tamagnone, K. Chaudhary, R. C. Devlin, C.-W. Qiu and Federico Capasso, "Single-Layer Metasurface with Controllable Multiwavelength Functions" *Nano letters* **18**, 2420-2427 (2018)
- [22] P. C. Wu, C. Y. Liao, V. Savinov, T. L. Chung, **W. T. Chen**, Y.-W. Huang, P. R. Wu, Y.-H. Chen, A.-Q. Liu, N. I Zheludev and Din Ping Tsai, "Optical anapole metamaterial" *ACS Nano* **12**, 1920-1927 (2018)
- [23] B. Groever, **W. T. Chen**, and F. Capasso, "Meta-Lens Doublet in the Visible Region" *Nano letters* **17**, 4902-4907 (2017)
- [24] **W. T. Chen**, A. Y. Zhu, M. Khorasaninejad, Z. Shi, V. Sanjeev, and F. Capasso, "Immersion Meta-Lenses at Visible Wavelengths for Nanoscale Imaging" *Nano letters* **17**, 3188-3194 (2017)
- [25] P. C. Wu, W.-Y. Tsai, **W. T. Chen**, Y.-W. Huang, T.-Y. Chen, J.-W. Chen, C. Y. Liao, C. H. Chu, G. Sun, and D. P. Tsai, "Versatile Polarization Generation with an Aluminum Plasmonic Metasurface" *Nano letters* **17**, 445-452 (2017)
- [26] M. Khorasaninejad, Z. Shi, **W. T. Chen**, V. Sanjeev, A. Zaidi, and F. Capasso, "Achromatic metalens over 60 nm bandwidth in the visible and metalens with reverse chromatic

- dispersion" *Nano letters* **17**, 1819-1824 (2017)
- [27] A. Y. Zhu\*, **W. T. Chen\***, M. Khorasaninejad, J. Oh, A. Zaidi, I. Mishra, R. C. Devlin, and F. Capasso, "Ultra-compact visible chiral spectrometer with meta-lenses" *APL Photonics* **2**, 036103 (2017) (\*equal contribution)
- [28] J. W. Boley, K. Chaudhary, T. J. Ober, M. Khorasaninejad, **W. T. Chen**, E. Hanson, A. Kulkarni, J. Oh, J. Kim, L. K. Aagesen, A. Y. Zhu, F. Capasso, K. Thornton, P. V. Braun and J. A. Lewis "High operating temperature direct ink writing of mesoscale eutectic architectures" *Advanced Materials* **29**, 1604778 (2017)
- [29] M. Khorasaninejad, **W. T. Chen**, A. Y. Zhu, J. Oh, R. C. Devlin, D. Rousso, and F. Capasso, "Multispectral Chiral Imaging with a Meta-lens" *Nano letters* **16**, 4595-4600 (2017)
- [30] **W. T. Chen**, M. Khorasaninejad, A. Y. Zhu, J. Oh, R. Devlin, A. Zaidi and F. Capasso "Generation of wavelength-independent sub-wavelength Bessel beams using metasurfaces" *Light: Science & Applications* **6**, e16259 (2017)
- [31] M. Khorasaninejad, **W. T. Chen**, A. Y. Zhu, J. Oh, R. C. Devlin, C. Roques-Carmes, I. Mishra and F. Capasso "Visible wavelength planar metalenses" *IEEE Journal of Selected Topics in Quantum Electronics* **23**, 4700216 (2016) (Invited)
- [32] M. Khorasaninejad, A. Y. Zhu, C. Roques-Carmes, **W. T. Chen**, J. Oh, I. Mishra, R. C. Devlin and F. Capasso "Polarization-insensitive metalenses at visible wavelengths" *Nano Letters* **16**, 7229-7234 (2016)
- [33] M. Khorasaninejad\*, **W. T. Chen\***, R. C. Devlin\*, J. Oh, A. Y. Zhu and F. Capasso, "Meta-Lenses at Visible Wavelengths: Diffraction-Limited Focusing and Sub-Wavelength Resolution Imaging" *Science* **352**, 1190 (2016) (\*equal contribution) (Journal Cover)
- [34] R. C. Devlin, M. Khorasaninejad, **W. T. Chen**, J. Oh and F. Capasso "Broadband high-efficiency dielectric metasurfaces for the visible spectrum" *Processing of National Academy of Science* **113**, 10473-10478 (2016)
- [35] M. Khorasaninejad, **W. T. Chen**, J. Oh and F. Capasso, "Super-Dispersive Off-Axis Meta-Lenses for Compact High Resolution Spectroscopy" *Nano letters* **16**, 3732-3737 (2016)
- [36] **W. T. Chen**, P. Török, M. R. Foreman, C. Y. Liao, W.-Y. Tsai, P. R. Wu, and D. P. Tsai, "Integrated plasmonic metasurfaces for spectropolarimetry" *Nanotechnology* **27**, 224002 (2016)
- [37] T. A. Raybould, V. A. Fedotov, N. Papasimakis, I. Kuprov, I. J. Youngs, **W. T. Chen**, D. P. Tsai, and N. I. Zheludev, "Toroidal circular dichroism" *Phys. Rev. B* **94**, 035119 (2016)
- [38] J. B. Khurgin, G. Sun, **W. T. Chen**, W.-Y. Tsai, and D. P. Tsai, "Ultrafast Thermal Nonlinearity" *Scientific Reports* **5**, 17899 (2015)
- [39] W.-L. Hsu, P. C. Wu, J.-W. Chen, T.-Y. Chen, B. H. Cheng, **W. T. Chen**, Y.-W. Huang, C. Y. Liao, G. Sun, and D. P. Tsai, "Vertical split-ring resonator based anomalous beam steering with high extinction ratio" *Scientific Reports* **5**, 11226 (2015)
- [40] P. C. Wu, W.-L. Hsu, **W. T. Chen**, Y.-W. Huang, C. Y. Liao, A. Q. Liu, N. I. Zheludev, G. Sun, D. P. Tsai, "Plasmon coupling in vertical split-ring resonator metamolecules" *Scientific Reports* **5**, 9726 (2015)
- [41] Y. W. Huang, **W. T. Chen**, W.-Y. Tsai, P. C. Wu, C.-M. Wang, G. Sun, and D. P. Tsai, "Aluminum Plasmonic Multicolor Meta-Hologram" *Nano Letters* **15**, 3122-3127 (2015)
- [42] S.-C. Chen, Y.-J. Chen, **W. T. Chen**, Y.-T. Yen, T. S. Kao, T.-Y. Chuang, Y.-K. Liao, K.-H. Wu, A. Yabushita, T.-P. Hsieh, M. D. B. Charlton, D. P. Tsai, H.-C. Kuo, and Y.-L. Chueh, "Toward Omnidirectional Light Absorption by Plasmonic Effect for High-Efficiency Flexible Nonvacuum Cu(In,Ga)Se<sub>2</sub> Thin Film Solar Cells" *ACS Nano*, **8**, 9341-9348 (2014)
- [43] P. C. Wu, G. Sun, **W. T. Chen**, K.-Y. Yang, Y.-W. Huang, Y.-H. Chen, H. L. Huang, W.-L. Hsu, H. P. Chiang, D. P. Tsai, "Vertical split-ring resonator based nanoplasmonic sensor" *Applied Physics Letters* **105**, 033105 (2014)

- [44] **W. T. Chen**, K.-Y. Yang, C.-M. Wang, Y.-W. Huang, G. Sun, I.-D. Chiang, C. Y. Liao, W.-L. Hsu, H. T. Lin, S. Sun, L. Zhou, A.-Q. Liu, D. P. Tsai, "High-efficiency broadband meta-hologram with polarization-controlled dual images" *Nano Letters* **14**, 225-230 (2014)
- [45] **W. T. Chen**, M. L. Tseng, P. C. Wu, C. M. Chang, S. Sun, N.-N. Chu, L. Zhou, T.-J. Yen, D.-W. Huang, C. H. Lu, and D. P. Tsai, "Multilayered plasmonic resonant cavity manufactured by femtosecond laser-induced forward transfer technique" *Optics Express* **21**, 619 (2013)
- [46] Y.-W. Huang, **W. T. Chen**, P. C. Wu, V. Fedotov, N. I. Zheludev, and D. P. Tsai, "Toroidal Lasing Spaser" *Scientific Reports* **3**, 1237 (2013)
- [47] S. Sun, K.-Y. Yang, C.-M. Wang, T.-K. Juan, **W. T. Chen**, C. Y. Liao, Q. He, S. Xiao, W.-T. Kung, G.-Y. Guo, L. Zhou, and D. P. Tsai, "High-Efficiency Broadband Anomalous Reflection by Gradient Meta-Surfaces" *Nano Letters* **12**, 6223-6229 (2012)
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- [49] P. C. Wu, **W. T. Chen**, K.-Y. Yang, C. T. Hsiao, G. Sun, A. Q. Liu, N. I. Zheludev, and D. P. Tsai, "Magnetic plasmon induced transparency in three-dimensional metamolecules" *Nanophotonics* **1**, 131-138 (2012)
- [50] M. L. Tseng, P. C. Wu, S. Sun, C. M. Chang, **W. T. Chen**, C. H. Chu, P.-L. Chen, L. Zhou, D.-W. Huang, T.-J. Yen, and D. P. Tsai, "Fabrication of multilayer metamaterials by femtosecond laser-induced forward transfer technique" *Laser & Photonics Reviews* **6**, 702-707 (2012)
- [51] Y. Z. Ho, **W. T. Chen**, Y.-W. Huang, P. C. Wu, M. L. Tseng, Y. T. Wang, Y. F. Chau, D. P. Tsai, "Tunable plasmonic resonance arising from broken-symmetric silver nanobeads with dielectric cores" *Journal of Optics* **14** (11), 114010 (2012)
- [52] C. C. Chen, C. T. Hsiao, S. Sun, K.Y. Yang, P. C. Wu, **W. T. Chen**, Y. H. Tang, Y. F. Chau, E. Plum, G. Y. Guo, N. I. Zheludev, and D. P. Tsai, "Fabrication of three dimensional split ring resonators by stress-driven assembly method" *Optics Express* **20**, 9415 (2012)
- [53] Y. W. Huang, **W. T. Chen**, P. C. Wu, V. Fedotov, V. Savinov, Y. Z. Ho, Y.-F. Chau, N. I. Zheludev, and D. P. Tsai, "Design of plasmonic toroidal metamaterials at optical frequencies" *Optics Express* **20**, 1760 (2012)
- [54] E. Plum, K. Tanaka, **W. T. Chen**, V. A. Fedotov, D. P. Tsai, and N. I. Zheludev, "A combinatorial approach to metamaterials discovery" *Journal of Optics* **13**, 055102 (2011)
- [55] **W. T. Chen**, P. C. Wu, C. J. Chen, T.-J. Yen, C.-J. Weng, C.-H. Kuan, M. Mansuripur and D. P. Tsai, "Manipulation of multi-dimensional plasmonic spectra for information storage" *Applied Physics Letters* **98**, 171106 (2011)
- [56] **W. T. Chen**, C. J. Chen, P. C. Wu, S. Sun, L. Zhou, G.-Yu Guo, C. T. Hsiao, K.-Yu Yang, N. I. Zheludev and D. P. Tsai, "Optical magnetic response in three-dimensional metamaterial of upright plasmonic meta-molecules" *Optics Express* **19**, 12837 (2011)
- [57] **W. T. Chen**, P. C. Wu, C. J. Chen, H. Y. Chung, Y. F. Chau, C. H. Kuan, D. P. Tsai, "Electromagnetic energy vortex associated with sub-wavelength plasmonic Taiji marks" *Optics Express* **18**, 19665 (2010)

## **Presentations**

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### • **Invited Talks**

- [1] **W. T. Chen**, "Semiconductor manufacturing for meta-optics" TechConnect, 2023
- [2] **W. T. Chen**, "Achromatic Metasurface Optics" Lockheed Martin, 2019
- [3] **W. T. Chen**, "Hybrid Achromatic Metasurface-Refractive Lenses" ZEMAX Envision, 2019
- [4] **W. T. Chen** and F. Capasso, "Dispersion-engineered and polarization-insensitive

metasurfaces for broadband achromatic optics" CLEO, 2019

- [5] **W. T. Chen** and F. Capasso, "Metasurface aberration correctors for broadband achromatic refractive optics" SPIE Photonics West, 2019
- [6] **W. T. Chen** and F. Capasso, "Metasurface-enabled broadband achromatic optics" Nanotech Conference and Expo, 2019
- [7] **W. T. Chen** and F. Capasso, "Dispersion-engineered metasurfaces for broadband achromatic optics" IEEE MTT-S International Conference on Numerical Electromagnetic and Multiphysics Modeling and Optimization, 2019
- [8] **W. T. Chen**, A. Y. Zhu, J. Sisler and F. Capasso, "Dispersion-tailored metalenses and their applications" Meta18, 2018
- [9] **W. T. Chen**, A. Y. Zhu, V. Sanjeev, M. Khorasaninejad, Z. Shi, E. Lee and F. Capasso, "Broadband achromatic metalenses in the visible" Physics of Quantum Electronics, 2018
- [10] **W. T. Chen**, A. Y. Zhu, M. Khorasaninejad, Z. Shi, J. Oh, R. C. Devlin, F. Capasso, "Planar dielectric metasurfaces for immersion optics" SPIE Photonics West, 2017

- **Conference Talks**

- [1] **W. T. Chen** and F. Capasso, "Dispersion-engineered metasurfaces for broadband achromatic optics" IEEE Photonics Conference, 2019
- [2] **W. T. Chen**, Y. Ibrahim, A. Y. Zhu and F. Capasso, "Hybrid metasurface-refractive lenses" OSA Optical Fabrication and Testing, 2019
- [3] **W. T. Chen**, A. Y. Zhu and F. Capasso, "Engineering Metasurface Dispersion for Achromatic Optics" OSA FIO/LS, 2019
- [4] **W. T. Chen** and F. Capasso, "High Performance Flat Optics" OSA FIO/LS, 2018
- [5] **W. T. Chen**, M. Khorasaninejad, A. Y. Zhu, J. Oh, R. C. Devlin, A. Zaidi and Federico Capasso, "Meta-axicons for generating wavelength-independent sub-wavelength Bessel beams" SPIE Photonics West, 2017
- [6] **W. T. Chen**, M. Khorasaninejad, J. Oh and F. Capasso, "Super-Dispersive Off-Axis Meta-Lenses for High Resolution Spectroscopy," OSA CLEO, 2016
- [7] **W. T. Chen**, Y.-W. Huang, P. C. Wu, C. Y. Liao, K.-Y. Yang, H.-T. Lin, V. Fedotov, G. Sun, S. Sun, L. Zhou, A. Q. Liu, N. I. Zheludev and D. P. Tsai, "Metamaterials: From 3D Plasmonic Nanostructure to Reflective Metasurface," JSAP Autumn Meeting, 2014, Japan
- [8] **W. T. Chen**, K.-Y. Yang, C.-M. Wang, Y.-W. Huang, G. Sun, I.-D. Chiang, C. Y. Liao, W.-L. Hsu, H. T. Lin, S. Sun, L. Zhou, A.-Q. Liu and D. P. Tsai, "Low-loss Plasmonic Meta-hologram," Optics & Photonics Taiwan, International Conference 2013, Taiwan
- [9] **W. T. Chen**, P. C. Wu, Y.-W. Huang, C. T. Hsiao, K.-Y. Yang, C. Y. Liao, V. Fedotov, V. Savinov, N. I. Zheludev, and D. P. Tsai, "3D metamaterials: Erected U-shaped nano-rings and plasmonic toroidal metamaterials at optical frequencies," E-MRS 2012, France
- [10] **W. T. Chen**, Y.-W. Huang, P. C. Wu, V. A. Fedotov, N. I. Zheludev, and D. P. Tsai, "Plasmonic lasing spacer associated with toroidal metamolecule at optical frequencies," JSAP-OSA Joint Symposia, 2012, Japan

- **Posters**

- [1] **W. T. Chen**, J. Sisler, A. Y. Zhu and Federico Capasso "Multifunctional metasurfaces with tailored dispersion" OSA FIO/LS 2019
- [2] **W. T. Chen**, Y.-W. Huang, K.-Y. Yang, M. L. Tseng, P. C. Wu, C. M. Chang "Fabrication of plasmonic functional metamaterials and its applications International, "Workshop Photonics of Functional Nanomaterials 2013," Hong Kong City University, China
- [3] **W. T. Chen**, C. Y. Liao, P. C. Wu, H. T. Lin, Y.-W. Huang, K.-Y. Yang, and D. P. Tsai, "Observing high-order resonance modes in plasmonic nanoring for Fano-resonance engineering," Annual Meeting of the Physics Society Republic of China 2013, Taiwan

- [4] Y.-W. Huang, **W. T. Chen**, P. C. Wu, Y.-F. Chau, D. P. Tsai, and N. I. Zheludev, "Plasmonic toroidal response at optical frequencies," IEEE iWEM 2011, Taiwan
- [5] **W. T. Chen**, P. C. Wu, C. J. Chen, C.-J. Weng, H.-C. Lee, T.-J. Yen, C.-H. Kuan, M. Mansuripur and D. P. Tsai, "Manipulation of multi-dimensional plasmonic spectra for information storage," ISOM/ODS'11, U.S.
- [6] **W. T. Chen**, E. Plum, K. Tanaka, V. A. Fedotov, D. P. Tsai, and N. I. Zheludev, "A combinatorial approach to metamaterials discovery," OPT 2010, Taiwan
- [7] **W. T. Chen**, P. C. Wu, C. J. Chen, M. Mansuripur and D. P. Tsai, "Plasmonic optical data storage," APDSC 2010, Taiwan
- [8] **W. T. Chen**, P. C. Wu, C. J. Chen, H. Y. Chung, Y. F. Chau, C. H. Kuan, D. P. Tsai, "Electromagnetic energy vortex associated with sub-wavelength plasmonic Taiji marks," NFO 11 2010, China
- [9] **W. T. Chen**, P. C. Wu, C. J. Chen, H. Y. Chung, Y. F. Chau, C. H. Kuan, D. P. Tsai, "Electromagnetic energy vortex associated with sub-wavelength plasmonic Taiji marks" The International Conference On Nanophotonics, 2010, Japan

## **Patents**

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- [1] Federico Capasso, **Wei Ting Chen**, Paulo Clovis Dainese Jr, Kangmei Li, Ming-jun Li, Jaewon Oh, Jun Yang "Wavelength Multiplexer/demultiplexer using metamaterials for communications" US 2023/0085821 A1
- [2] **Wei Ting Chen**, Alexander Yutong Zhu, Mohammadreza Khorasaninejad, Shi Zhujun, Federico Capasso, Vyshakh Sanjeev "Immersion meta-lens at visible wavelengths for diffraction-limited imaging" US 11,320,641 B2
- [3] **Wei Ting Chen**, Federico Capasso, Kerolos Yousef, Yousef Ibrahim "Hybrid metasurface-refractive super superachromatic lenses" US 2022/0206186 A1
- [4] **Wei Ting Chen**, Alexander Yutong Zhu, Federico Capasso "Broadband achromatic polarization-insensitive metalens with anisotropic nanostructures" US 2022/0048764 A1
- [5] Stephen D Newman, Zhaoyi Li, **Wei-Ting Chen**, Kerolos MA Yousef, Federico Capasso "Systems and methods for forming ophthalmic lens including meta optics" US 2022/0011594 A1
- [6] Alexander Yutong Zhu, **Wei Ting Chen**, Mohammadreza Khorasaninejad, Jaewon Oh, Muhammad Aun Abbas Zaidi, Robert Devlin, Federico Capasso "Ultra-compact, aberration corrected, visible chiral spectrometer with meta-lenses" US 11,194,082 B2
- [7] Federico Capasso, **Wei Ting Chen**, Robert C Devlin, Mohammadreza Khorasaninejad, Jaewon Oh, Alexander Yutong Zhu, Charles Roques-carnes, Ishan Mishra "Meta-lenses for sub-wavelength resolution imaging" US 11,092,717 B2
- [8] Benedikt Groever, **Wei Ting Chen**, Federico Capasso "Meta-lens doublet for aberration correction" US 2021/0149081 A1
- [9] M. Khorasaninejad, F. Capasso, **W. T. Chen**, J. Oh, "Super-dispersive off-axis meta-lenses for high resolution compact spectroscopy" WO 2018009258 A3
- [10] F. Capasso, **W. T. Chen**, R. C. Devlin, M. Khorasaninejad, J. Oh, A. Zhu, C. Roques-Carnes, I. Mishra, "Meta-lenses for sub-wavelength resolution imaging" WO 2017176921 A1
- [11] D. P. Tsai, Y.-W. Huang, **W. T. Chen**, C.-M. Wang, "Plasmonic multicolor meta-hologram" US 2017/0068214 A1

## **Teaching Experience**

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### **Project Advisor (2017 to 2020)**

Mentored seven undergrad intern students (Eric Lee, Jared Sisler, Kerolos Yousef, Yousef Ibrahim, Sophia Millay, Justin Marchioni and Zameer Bharwani)

## **Lecturer**

Tutorial on metalens design and simulation at FIO/LS special event (2018), 50 attendees

## **Lecturer**

Tutorial on metasurface design and simulation at CLEO special event (2018), 50 attendees

## **Teaching Assistance**

Undergraduate physic laboratory, 60 students

Responsibilities: Lecturing/Lab demonstrations/tutoring, grading, exam grading

## **Awards**

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### **Fellowships**

- "Postdoctoral Research Abroad Fellowship" Taiwan Ministry of Science and Technology (2015-2016)

### **Academic Recognition**

- "Dean's Award for Ph.D degree", National Taiwan University, 2014
- "Best Poster Award", International Workshop Photonics of Functional Nanomaterials, Hong Kong, 2013
- "Best Student Paper Award", International Conference on Optics & Photonics in Taiwan, Taiwan, 2013
- "Outstanding Poster Award", Annual Meeting of the Physics Society Republic of China, Taiwan, 2013
- "Student Innovation Award", IEEE International Workshop on Electromagnetic, Taipei, Taiwan, 2011
- "Best Academic Paper Award" ISOM/ODS'11, U.S., 2011
- "Dean's Award for Master of Philosophy degree ", National Taiwan University, 2011
- "Student Paper Award", International Conference on Optics and Photonics in Taiwan, Taiwan, 2010
- "Outstanding Poster Award", Asia Pacific Data Storage Conference, Taiwan, 2010
- "Best Poster Paper Award", The International Conference on Nanophotonics 2010, Japan, 2010

### **Travel Awards**

- JSAP student travel grant, JSAP-OSA Joint Symposia, 2012, 1,000 USD
- SPIE student travel grant, SPIE Optics + Photonics, 2008, 1,600 USD

## **Professional Service**

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- Reviewer for *Science*, *Nature*, *Materials Today*, *Science Advances*, *Laser and Photonics Reviews*, *Nature Communications*, *Light: Science and Applications*, *Advanced Science*, *Physics Review A*, *ACS Photonics*, *Advanced Optical Materials*, *Journal of Lightwave Technology*, *Optics Communications*, *Optics Express*, *Applied Optics* and *Optics Letters*
- Chair of Optica topical meeting: Flat Optics
- Host of OSA incubator meeting entitled "Flat Optics: Recent Advances and Future Opportunities"
- Chair, OSA Photonic Metamaterials technical group (Jan, 2018 – 2020)
- Chapter President, SPIE National Taiwan University Student Chapter (2008 – 2009)

During my service, the chapter obtained NTU Excellent Chapter Award.



- Member of The Optical Society (OSA)
- Member of Society of Photo-Optical Instrumentation Engineers (SPIE)
- Member of The Institute of Electrical and Electronics Engineers (IEEE)
- Member of American Physical Society (APS)