

## ALEX M. H. WONG

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Associate Professor,  
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### EDUCATION

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**Ph.D., Dept. of Electrical and Computer Engineering, University of Toronto** (Sept 2008 – Apr 2014)

Supervisor: Prof. George V. Eleftheriades (*IEEE Fellow*)

Thesis Title: “Sub-Diffraction Imaging Using Superoscillatory Electromagnetic Waves”

**M.A.Sc., Dept. of Electrical and Computer Engineering, University of Toronto** (Sept 2006 – Jan 2009)

Supervisor: Prof. George V. Eleftheriades (*IEEE Fellow*)

Thesis Title: “Subwavelength Focusing via Holographic Metallic Screens”

**B.A.Sc., Faculty of Applied Science and Engineering, University of Toronto** (Sept 2002 – Jun 2006)

Program: Engineering Science, Electrical Option

Thesis Supervisor: Prof. Li Qian (*Optica Fellow*)

Thesis Title: “Two Superior Iterative Fiber Bragg Grating Design Algorithms for Power Efficient shaping of Picosecond Duration Optical Pulses with Arbitrary Waveforms”

### RESEARCH INTERESTS

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Metasurfaces, Metamaterials, Antennas, Terahertz and Microwave systems, Super-Resolution Imaging, Medical Imaging, Wireless Power Transfer, Superoscillation, Applied Electromagnetics, Optics.

### RESEARCH EXPERIENCE

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**Associate Professor – City University of Hong Kong** (Jul 2024 – Present)

**Assistant Professor – City University of Hong Kong** (Jan 2018 – Jun 2024)

**Post-Doctoral Researcher – Electromagnetics, University of Toronto** (May 2014 – Dec 2017)

- **Areas of research:** super-resolution imaging, superoscillation, metasurfaces, antenna arrays, radar

**Graduate Researcher – Electromagnetics, University of Toronto** (Sept 2006 – Apr 2014)

- **Areas of research:** super-resolution imaging, superoscillation, near-field antennas, holography, metasurfaces

**Research Assistant – Photonics, University of Toronto** (Apr 2005 – Aug 2006)

- **Areas of research:** fiber Bragg grating design, optical pulse shaping.

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### SELECTED AWARDS AND ACHIEVEMENTS

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1. ***IEEE R.W.P. King Award*** (Jul 2012)  
Given annually to recognize the best paper published in the *IEEE Transactions on Antennas and Propagation*, authored by an early career researcher of age 36 or younger.
2. ***Alexander Graham Bell Canada Graduate Scholarship (Doctoral) (NSERC CGS D)*** (2009 – 2012)  
This national governmental award supports top doctoral students whose fields of research relate to natural science and engineering.
3. ***IEEE MTT-S Graduate Fellowship*** (Jun 2012)  
Given by the *IEEE Microwave Theory and Techniques Society*, this award recognizes and supports exceptional graduate students towards a graduate degree in microwave engineering.
4. ***IEEE AP-S Doctoral Research Award*** (Nov 2012)  
Given by the *IEEE Antennas and Propagation Society*, this award encourages graduate students to pursue a career in the area of electromagnetics.
5. ***IEEE Society of Antennas and Propagation Symposium (AP-S) 2010: Student Paper Competition Finalist*** (Jul 2010)  
The AP-S is a major international symposium for the field of electromagnetics, with well over 1000 participating presenters.
6. ***Marina Forum on Metatennas and Antenna Systems – First Prize Student Paper Award (Co-authored with B. Xue and K. A. Oyesina)*** (Mar 2025)
7. ***URSI Young Scientist Award*** (Aug 2017)
8. ***Raj Mittra Travel Grant*** (Jul 2015)
9. ***TICRA Travel Grant*** (Apr 2014)
10. ***Graduate Student Endowment Fund*** (Apr 2013)
11. ***Departmental Doctoral Completion Award*** (2012 – 2013)
12. ***Connections Symposium: 1<sup>st</sup> Place Award*** (May 2012)
13. ***Ontario Graduate Scholarship (Doctoral) (OGS D)*** (2009 – 2010, Declined)
14. ***IEEE Society of Antennas and Propagation Symposium 2008: Student Paper Competition Honourable Mention*** (Jul 2008)
15. ***Natural Science and Engineering Research Council of Canada: Postgraduate Scholarship (Master) (NSERC PGSM)*** (2007 – 2008)
16. ***Ontario Graduate Scholarship (Master) (OGS M)*** (2007 – 2008, Declined)

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**ACADEMIC CONTRIBUTIONS**

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Refereed Journal Papers (Citation counts courtesy Google Scholar, Feb. 28<sup>th</sup>, 2026)

- J49. K. Duan, B.-W. Ren, Z. Lin, K. F. Chan and **A. M. H. Wong**, “Wideband and dual-polarized transmit-reflect-array antenna for asymmetric beam manipulation using a 3D-printed/ printed-circuit-board hybrid,” Feb. 2026. (Submitted)
- J48. T. A. Khan, M. I. Khan and **A. M. H. Wong**, “A wideband low-profile phase correcting metasurface to improve directive radiation characteristics of Fabry–Pérot cavity antennas,” Feb. 2026. (Submitted)
- J47. S. Dong, K. Duan, J. Lu, **A. M. H. Wong** and Y. Guo, “Metalens-based beam focusing bioradar for contactless artery dynamics detection,” Feb. 2026. (Submitted)
- J46. W. Chen, K. Li, B. Xue, T. Hua, S.-Y. R. Hui and **A. M. H. Wong**, “Multi-layered frequency selective surfaces for magnetic field shielding in Megahertz wireless power transfer systems,” Jan. 2026. (Submitted)
- J45. Z. Lin and **A. M. H. Wong**, “Wide-angle beam steering with a multi-port metasurface cavity antenna: From theory to experiment,” May 2025. (Submitted)
- J44. X. He, S. Gao and **A. M. H. Wong**, “Broadband high aperture efficiency lens antenna based on achromatic Huygens metasurface,” Mar 2025. (Submitted)
- J43. H. Guo, J. Rao, **A. M. H. Wong**, R. Murch and V. K. N. Lau, “Channel estimation and passive beamforming for pixel-based reconfigurable intelligent surfaces with non-separable state response,” *IEEE Transactions on Wireless Communications*, Dec. 2025. (Accepted)
- J42. S. Y. R. Hui, C. Zhang, K. Li, **A. M. H. Wong** and S. C. Tan, “Some key aspects of near-field wireless power transfer technologies for high frequency, high power and high efficiency,” *IEEE Transactions on Power Electronics*, Dec. 2025. [doi:10.1109/TPEL.2025.3648424](https://doi.org/10.1109/TPEL.2025.3648424) (Early Access)
- J41. F. C. Y. Chiu, **A. M. H. Wong**, W. Lin and G. Wu, “IEEE Hong Kong section AP-S/MTT-S joint chapter: Driving innovation and engagement in electromagnetics and microwave technologies,” *IEEE Microwave Magazine*, vol. 26, no. 10, pp. 85-87, Oct. 2025. [doi:10.1109/MMM.2025.3585711](https://doi.org/10.1109/MMM.2025.3585711)
- J40. C. Xue and **A. M. H. Wong**, “1.5 GHz non-invasive directional deep brain stimulation with improved focus size and minimized input power,” *Journal of Neural Engineering*, vol. 22, no. 4, 046049, Aug. 2025. [doi:10.1088/1741-2552/adfab4](https://doi.org/10.1088/1741-2552/adfab4)
- J39. T. A. Khan and **A. M. H. Wong**, “A wideband, dual-polarized, resonant cavity antenna using miniaturized-element frequency selective surfaces,” *IEEE Transactions on Antennas and Propagation*, vol. 73, no. 10, pp.7232-7243, Jul. 2025. [doi:10.1109/TAP.2025.3584590](https://doi.org/10.1109/TAP.2025.3584590)
- J38. B.-W. Ren, C. Qi, P. Li, X. He and **A. M. H. Wong**, “A self-adaptive reconfigurable metasurface for electromagnetic wave sensing and dynamic reflection control,” *Advanced Science*, vol. 12, no. 32, e05155, Jun. 2025. [doi:10.1002/advs.202505155](https://doi.org/10.1002/advs.202505155)
- J37. C. Qi and **A. M. H. Wong**, “Simultaneously enhancing radiation and aperture efficiencies of leaky wave antennas using discrete metasurfaces,” *IEEE Transactions on Antennas and Propagation*, vol. 73, no. 9, pp. 6403-6413, May 2025. [doi:10.1109/TAP.2025.3571590](https://doi.org/10.1109/TAP.2025.3571590)

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- J36. K. A. Oyesina and **A. M. H. Wong**, “Achieving many-fold reduction in active elements with a highly-directive beam-steerable Huygens box antenna,” *Electromagnetic Science*, vol. 3, no. 2, 0100512, Mar. 2025. [doi:10.23919/emsci.2024.0051](https://doi.org/10.23919/emsci.2024.0051)
- J35. X. He, B. Ren, K. F. Chan and **A. M. H. Wong**, “Full-space spin-controlled four channels metalens with equal power distribution and broad bandwidth,” *Laser & Photonics Reviews*, vol. 19, no. 12, 2401843, Mar. 2025. [doi:10.1002/lpor.202401843](https://doi.org/10.1002/lpor.202401843)
- J34. M. I. Khan, T. A. Khan, M. Abdelbaky and **A. M. H. Wong**, “Realizing electronically reconfigurable intrinsic chirality: From no absorption to maximal absorption of any desirable spin,” *Nanophotonics*, vol. 14, no. 3, Feb. 2025. [doi:10.1515/nanoph-2024-0626](https://doi.org/10.1515/nanoph-2024-0626)
- J33. B. Xue, K. A. Oyesina and **A. M. H. Wong**, “Achieving broadband near-field directionality with a three-dimensional active Janus antenna,” *Laser & Photonics Reviews*, vol. 19, no. 2, 2401093, Sept. 2024. [doi:10.1002/lpor.202401093](https://doi.org/10.1002/lpor.202401093) (Inside Cover) (First Prize Paper at Marina Forum 2025)
- J32. C. Xue, G. Zhou and **A. M. H. Wong**, “Metasurface approach to generate homogeneous B1+ field for high-field and ultra-high-field MRI,” *IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology*, vol. 8, no. 2, pp. 155-162, Apr. 2024. [doi:10.1109/JERM.2024.3381333](https://doi.org/10.1109/JERM.2024.3381333)
- J31. B. Xue, K. A. Oyesina and **A. M. H. Wong**, “Electromagnetic near-field mutual coupling suppression with active Janus sources,” *Communications Physics*, vol. 7, 87, Mar. 2024. [doi:10.1038/s42005-024-01569-x](https://doi.org/10.1038/s42005-024-01569-x)
- J30. C. Qi, X. He, B. Ren and **A. M. H. Wong**, “Broadband terahertz metalenses based on printed circuit board fabrication,” *Advanced Optical Materials*, vol. 12, no. 11, 2302459, Jan. 2024. [doi:10.1002/adom.202302459](https://doi.org/10.1002/adom.202302459) (Inside Cover)
- J29. T. A. Khan and **A. M. H. Wong**, “True-time-delay metasurface assisted broadband and planarized resonant cavity antenna,” *IEEE Open Journal of Antennas and Propagation*, vol. 5, no. 2, pp. 316-329, Dec. 2023. [doi:10.1109/OJAP.2023.3348188](https://doi.org/10.1109/OJAP.2023.3348188)
- J28. J. Zhang, J. Xi, P. Li, R. C. C. Cheung, **A. M. H. Wong** and J. Li, “Experiment-based deep learning approach for power allocation with a programmable metasurface,” *APL Machine Learning*, vol. 1, 046122, Dec. 2023. [doi:10.1063/5.0184328](https://doi.org/10.1063/5.0184328)
- J27. A. Sharma and **A. M. H. Wong**, “Bipartite dielectric Huygens’ metasurface for anomalous refraction,” *Physica Scripta*, vol. 98, p. 115539, Oct. 2023. [doi:10.1088/1402-4896/ad03c1](https://doi.org/10.1088/1402-4896/ad03c1)
- J26. X. He, C. Qi, S. Lei and **A. M. H. Wong**, “A dual-polarized broadband achromatic Huygens’ metalens with large numerical aperture,” *Nanophotonics*, vol. 12, no. 18, pp. 3633-3644, Aug. 2023. [doi:10.1515/nanoph-2023-0331](https://doi.org/10.1515/nanoph-2023-0331)
- J25. Y. Cheng, K. A. Oyesina, B. Xue, D. Lei, **A. M. H. Wong** and S. Wang, “Directional dipole dices enabled by anisotropic chirality,” *Proceedings of the National Academy of Science*, vol. 120, no. 25, e2301620120, Jun. 2023. [doi:10.48550/arXiv.2208.04151](https://doi.org/10.48550/arXiv.2208.04151)
- J24. J. Zhang, P. Li, R. C. C. Cheung, **A. M. H. Wong** and J. Li, “Generation of time-varying orbital angular momentum beams with space-time-coding digital metasurface,” *Advanced Photonics*, vol. 5, no. 3, p. 036001, Apr. 2023. <https://doi.org/10.1117/1.AP.5.3.036002> (Cited 54 times)

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- J23. C. Qi and **A. M. H. Wong**, "Discrete Huygens' metasurface: Realizing anomalous refraction and diffraction mode circulation with a robust, broadband and simple design," *IEEE Transactions on Antennas and Propagation*, vol. 70, no. 8, pp. 7300-7305, Aug. 2022. [doi:10.1109/TAP.2022.3164931](https://doi.org/10.1109/TAP.2022.3164931)
- J22. X. He, C. Qi and **A. M. H. Wong**, "A compact transparent polarization-insensitive metasurface with broadband monostatic and bistatic radar cross-section reduction of millimeter-waves," *Journal of Physics D: Applied Physics*, vol. 55, no. 35, p. 355104, Jun. 2022. [doi:10.1088/1361-6463/ac76f3](https://doi.org/10.1088/1361-6463/ac76f3)
- J21. C. Qi and **A. M. H. Wong**, "Broadband efficient anomalous reflection using an aggressively discretized metasurface," *Optics Express*, vol. 30, no. 9, pp. 15735-15746, Apr. 2022. [doi:10.1364/OE.455617](https://doi.org/10.1364/OE.455617)
- J20. **A. M. H. Wong** and G. V. Eleftheriades, "Active Huygens' box: Arbitrary electromagnetic Wave generation with an electronically controlled metasurface," *IEEE Transactions on Antennas and Propagation*, vol. 69, no. 3, pp. 1455-1468, Mar. 2021. [doi:10.1109/TAP.2020.3017438](https://doi.org/10.1109/TAP.2020.3017438)
- J19. K. A. Oyesina and **A. M. H. Wong**, "Metasurface-enabled cavity antenna: Beam steering with dramatically reduced fed elements," *IEEE Antennas and Wireless Propagation Letters*, vol. 19, no. 4, pp. 616-620, Feb. 2020. [doi:10.1109/LAWP.2020.2973507](https://doi.org/10.1109/LAWP.2020.2973507)
- J18. M. Berry, N. Zheludev, Y. Aharonov, F. Colombo, I. Sabadini, D. C. Struppa, J. Tollaksen, E. T. F. Rogers, F. Qin, M. Hong, X. Luo, R. Remez, A. Arie, J. B. Götte, M. R. Dennis, **A. M. H. Wong**, G. V. Eleftheriades, Y. Eliezer, A. Bahabad, G. Chen, Z. Wen, G. Liang, C. Hao, C. W. Qiu, A. Kempf, E. Katzav and M. Schwartz, "Roadmap on superoscillations," *Journal of Optics*, vol. 21, no. 5, 053002, Apr. 2019. [doi:10.1088/2040-8986/ab0191](https://doi.org/10.1088/2040-8986/ab0191) (**Invited**) (Cited 223 times)
- J17. M. Chen, M. Kim, **A. M. H. Wong** and G. V. Eleftheriades, "Huygens' metasurfaces from microwaves to optics: A review," *Nanophotonics*, vol. 7, no. 6, pp. 1207-1231, Jun. 2018. [doi:10.1515/nanoph-2017-0117](https://doi.org/10.1515/nanoph-2017-0117) (**Invited**) (Cited 262 times)
- J16. **A. M. H. Wong**, P. Christian and G. V. Eleftheriades, "Binary Huygens' metasurfaces: Experimental demonstration of simple, efficient near-grazing retroreflectors for TE, TM polarizations," *IEEE Transactions on Antennas and Propagation*, vol. 66, no. 6, pp. 2892-2903, Mar. 2018. [doi:10.1109/TAP.2018.2816792](https://doi.org/10.1109/TAP.2018.2816792) (Cited 99 times)
- J15. **A. M. H. Wong** and G. V. Eleftheriades, "Perfect anomalous reflection with a bipartite Huygens' metasurface," *Physical Review X*, vol. 8, no. 1, p. 011036, Feb. 2018. [doi:10.1103/PhysRevX.8.011036](https://doi.org/10.1103/PhysRevX.8.011036) (Cited 393 times)
- J14. X. H. Dong, **A. M. H. Wong** and G. V. Eleftheriades, "Superresolution far-field imaging of complex objects using reduced superoscillating ripples," *Optica*, vol. 4, no. 9, pp. 1126-1133, Sept. 2017. [doi:10.1364/OPTICA.4.001126](https://doi.org/10.1364/OPTICA.4.001126) (Cited 71 times)
- J13. **A. M. H. Wong** and G. V. Eleftheriades, "Broadband superoscillation brings a wave into perfect three-dimensional focus," *Physical Review B*, vol. 95, no. 7, p. 075148, Feb. 2017. [doi:10.1103/PhysRevB.95.075148](https://doi.org/10.1103/PhysRevB.95.075148)
- J12. **A. M. H. Wong** and G. V. Eleftheriades, "Superoscillations without sidebands: power efficient sub-diffraction imaging with propagating waves," *Scientific Reports*, vol. 5, 8449, Feb. 2015. [doi:10.1038/srep08449](https://doi.org/10.1038/srep08449)
- J11. M. Kim, **A. M. H. Wong** and G. V. Eleftheriades, "Optical Huygens' metasurfaces with independent control of the magnitude and phase of the local reflection coefficients," *Physical Review X*, vol. 4, no. 4, p. 041042, Dec. 2014. [doi:10.1103/PhysRevX.4.041042](https://doi.org/10.1103/PhysRevX.4.041042) (Cited 277 times)

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- J10. **A. M. H. Wong** and G. V. Eleftheriades, "An optical super-microscope for far-field, real-time imaging beyond the diffraction limit," *Scientific Reports*, vol. 3, 1715, Apr. 2013. [doi:10.1038/srep01715](https://doi.org/10.1038/srep01715) (Cited 143 times)
- J9. **A. M. H. Wong** and G. V. Eleftheriades, "Advances in imaging beyond the diffraction limit," *IEEE Photonics Journal*, vol. 4, no. 2, pp. 586-589, Apr. 2012. [doi:10.1109/JPHOT.2012.2189615](https://doi.org/10.1109/JPHOT.2012.2189615) (*Invited*)
- J8. **A. M. H. Wong** and G. V. Eleftheriades, "Superoscillatory radar imaging: improving radar range resolution beyond fundamental bandwidth limitations," *IEEE Microwave and Wireless Component Letters*, vol. 22, no. 3, pp. 147-149, Mar. 2012. [doi:10.1109/LMWC.2012.2185824](https://doi.org/10.1109/LMWC.2012.2185824)
- J7. **A. M. H. Wong** and G. V. Eleftheriades, "Sub-wavelength focusing at the multi-wavelength range using superoscillations: an experimental demonstration," *IEEE Transactions on Antennas and Propagation*, vol. 59, no. 12, pp. 4766-4776, Dec. 2011. [doi:10.1109/TAP.2011.2165518](https://doi.org/10.1109/TAP.2011.2165518) (*R.W.P. King Award paper*) (Cited 67 times)
- J6. **A. M. H. Wong** and G. V. Eleftheriades, "Temporal pulse compression beyond the Fourier transform limit," *IEEE Transactions on Microwave Theory and Techniques*, vol. 59, no. 9, pp. 2173-2179, Sept. 2011. [doi:10.1109/TMTT.2011.2160961](https://doi.org/10.1109/TMTT.2011.2160961)
- J5. **A. M. H. Wong** and G. V. Eleftheriades, "Adaptation of Schelkunoff's superdirective antenna theory or the realization of superoscillatory antenna arrays," *IEEE Antennas and Wireless Propagation Letters*, vol. 9, pp. 315-318, Apr. 2010. [doi:10.1109/LAWP.2010.2047710](https://doi.org/10.1109/LAWP.2010.2047710) (Cited 80 times)
- J4. Y. Wang, **A. M. H. Wong**, L. Markley, A. S. Helmy and G. V. Eleftheriades, "Plasmonic meta-screen for alleviating the trade-offs in the near-field optics," *Optics Express*, vol. 17, pp. 12351-12361, Jul. 2009. [doi:10.1364/OE.17.012351](https://doi.org/10.1364/OE.17.012351)
- J3. L. Markley, **A. M. H. Wong**, Y. Wang and G. V. Eleftheriades, "Spatially shifted beam approach to subwavelength focusing," *Physical Review Letters*, vol. 101, no. 11, p. 113901, Sept. 2008. [doi:10.1103/PhysRevLett.101.113901](https://doi.org/10.1103/PhysRevLett.101.113901) (Cited 107 times)
- J2. G. V. Eleftheriades and **A. M. H. Wong**, "Holography-inspired screens for sub-wavelength focusing in the near field," *IEEE Microwave and Wireless Component Letters*, vol. 18, no. 4, pp. 236-238, Apr. 2008. [doi:10.1109/LMWC.2008.918871](https://doi.org/10.1109/LMWC.2008.918871) (Cited 68 times)
- J1. **A. M. H. Wong**, C.D. Sarris and G. V. Eleftheriades, "Metallic transmission screen for sub-wavelength focusing," *IET Electronics Letters*, vol. 43, no. 25, pp. 1402-1404, Dec. 2007. [doi:10.1049/el:20072315](https://doi.org/10.1049/el:20072315)

### Refereed Conference Proceedings

- C75. S. Lei and **A. M. H. Wong**, "Analysis and simulation of intrinsic response time of time-varying metasurfaces," *International Conference Series on Metamaterials, Photonic Crystals and Plasmonics (META 2026)*, Dublin, Ireland, Jul. 2026. (*Invited*) (Submitted)
- C74. Y. Wang, Z. Lin and **A. M. H. Wong**, "Dual-band beam-switching cavity-excited antenna based on scattering constellations," *International Conference Series on Metamaterials, Photonic Crystals and Plasmonics (META 2026)*, Dublin, Ireland, Jul. 2026. (Submitted)
- C73. Q. Li, B. Xue and **A. M. H. Wong**, "An electrically small, near-field reconfigurable Janus antenna," *IEEE MTT-S International Wireless Symposium (IWS 2026)*, Shenzhen, China, May 2026. (Submitted)

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- C72. W. Chen, B. Xue, K. Li, R. S. Y. Hui and **A. M. H. Wong**, “Multi-layer frequency-selective surface for magnetic field shielding in Megahertz wireless power transfer systems,” *IEEE Applied Power Electronics Conference and Exposition (APEC 2026)*, San Antonio, United States, Mar. 2026. (Accepted)
- C71. **A. M. H. Wong**, B.-W. Ren, C. Qi, P. Li and X. He, “A self-adaptive stable-reflection metasurface for indoor wireless applications,” *2025 Photonics and Electromagnetics Research Symposium (PIERS 2025)*, Chiba, Japan, Nov. 2025.
- C70. **A. M. H. Wong**, B. Xue and K. A. Oyesina, “On Janus dipoles and antennas,” *2025 Photonics and Electromagnetics Research Symposium (PIERS 2025)*, Chiba, Japan, Nov. 2025. (**Invited**)
- C69. B.-W. Ren, X. He and **A. M. H. Wong**, “A self-adaptive metasurface for DoA detection and normal reflection,” *2025 IEEE International Workshop on Electromagnetics: Applications and Student Innovation Competition (iWEM)*, Hong Kong, China, Aug. 2025.
- C68. T. A. Khan and **A. M. H. Wong**, “Phase-correcting metasurface for sidelobe suppression in Fabry-Pérot cavity antennas with spherical ground,” *2025 IEEE International Workshop on Electromagnetics: Applications and Student Innovation Competition (iWEM)*, Hong Kong, China, Aug. 2025.
- C67. B. Xue and **A. M. H. Wong**, “Near-field mutual coupling suppression in sub-wavelength MIMO Janus antenna,” *2025 IEEE International Workshop on Electromagnetics: Applications and Student Innovation Competition (iWEM)*, Hong Kong, China, Aug. 2025.
- C66. Z. Lin and **A. M. H. Wong**, “Reconfigurable cavity antenna based on metallic pins,” *ITNC-USNC-URSI Radio Science Meeting (APS-URSI)*, Ottawa, Canada, Jul. 2025.
- C65. K. A. Oyesina and **A. M. H. Wong**, “Reconfigurable active directional dipoles: Implementation, near-field measurements and application to directional waveguiding,” *IEEE International Symposium on Antennas and Propagation (AP-S)*, Ottawa, Canada, Jul. 2025.
- C64. S. Lei and **A. M. H. Wong**, “Investigating modulation speeds of time-varying metasurfaces using time-domain full-wave simulation,” *IEEE International Symposium on Antennas and Propagation (AP-S)*, Ottawa, Canada, Jul. 2025. (**Honourable Mention**)
- C63. W. Chen, B. Xue, K. Li, S. Y. R. Hui and **A. M. H. Wong**, “Metasurface-based magnetic field shielding technique in wireless power transfer system,” *International Conference on Microwave and Millimeter Wave Technology (ICMMT)*, Xi’an, China, May 2025.
- C62. H.-L. Dong, X. He, C. Qi, T. A. Khan, Y. Li and **A. M. H. Wong**, “Frequency selective surface enabled dual-wideband dual-polarized reflectarray antenna with a large frequency ratio,” *International MTT-S Wireless Symposium (IWS)*, Xi’an, China, May 2025. (**Competition Finalist**)
- C61. **A. M. H. Wong**, “Tailoring electromagnetic near-fields with Janus and Huygens sources and metasurfaces,” *IEEE Asia-Pacific Conference on Antennas and Propagation (APCAP)*, Nanjing, China, Sept. 2024. (**Invited**)
- C60. Z. Lin and **A. M. H. Wong**, “Passive metasurface based cavity antenna for wide-angle beam steering,” *IEEE Asia-Pacific Conference on Antennas and Propagation (APCAP)*, Nanjing, China, Sept. 2024.
- C59. B. Ren and **A. M. H. Wong**, “A wideband dual-polarized achromatic reflective metasurface using ME-dipole elements,” *IEEE Asia-Pacific Conference on Antennas and Propagation (APCAP)*, Nanjing, China, Sept. 2024. (**Invited**)

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- C58. J. Zhang, J. Xi, P. Li, R. C. C. Cheung, **A. M. H. Wong** and J. Li, "Dynamic power allocation and spatiotemporal mode generation with a programmable metasurface," *META 2024 | 14th Conference on Metamaterials, Photonic Crystals and Plasmonics*, Toyama, Japan, Jul. 2024.
- C57. X. He and **A. M. H. Wong**, "Polarization-dependent varifocal metalens with achromatic focusing in THz region," *IEEE International Symposium on Antennas and Propagation (AP-S)*, Florence, Italy, Jul. 2024.
- C56. T. A. Khan and **A. M. H. Wong**, "A wideband low-profile phase correcting metasurface to improve directive radiation characteristics of resonant cavity antennas," *IEEE International Symposium on Antennas and Propagation (AP-S)*, Florence, Italy, Jul. 2024. (**Honourable Mention**)
- C55. B. Xue and **A. M. H. Wong**, "Achieving broadband near-field directionality with a three-dimensional active Janus source," *IEEE International Symposium on Antennas and Propagation (AP-S)*, Florence, Italy, Jul. 2024. (**Honourable Mention**)
- C54. C. Qi and **A. M. H. Wong**, "Discrete metasurface-based leaky wave antenna: Simultaneously enhancing radiation and aperture efficiencies," *IEEE International Symposium on Antennas and Propagation (AP-S)*, Florence, Italy, Jul. 2024.
- C53. C. Xue and **A. M. H. Wong**, "An experimental design of the Huygens' cylinder for MRI application," *ITNC-USNC-URSI Radio Science Meeting (APS-URSI)*, Florence, Italy, Jul. 2024.
- C52. B. Ren, X. He and **A. M. H. Wong**, "A novel full-space four-channel phase independent controllable metasurface," *ITNC-USNC-URSI Radio Science Meeting (APS-URSI)*, Florence, Italy, Jul. 2024.
- C51. X. He and **A. M. H. Wong**, "A dual-polarized metalens with wide field-of-view and broad bandwidth for 77GHz radar applications," *The 15<sup>th</sup> Global Symposium on Millimeter-Waves and Terahertz (GSMM)*, Hong Kong, China, May 2024.
- C50. **A. M. H. Wong**, C. Qi, X. He and T. A. Khan, "Passive broadband bianisotropic metasurface lenses and antennas," *2024 International Conference on Microwave and Millimeter Wave Technology (ICMMT)*, Beijing, China, May 2024. (**Invited**)
- C49. **A. M. H. Wong**, "Achromatic Metalenses, Time-varying OAM and Near-field Directionality: The Physics and Applications of Electro-Magnetic Meta-Atoms," *IEEE Asia-Pacific Conference on Antennas and Propagation (APCAP)*, Guangzhou, China, Nov. 2023. (**Invited**)
- C48. J. Zhang, P. Li, R. C. C. Cheung, **A. M. H. Wong**, J. Li, "Time-varying OAM beams generation by a metasurface," *Metamaterials, Photonic Crystals and Plasmonics Conference 2023 (META)*, Paris, France, Jul. 2023.
- C47. T. A. Khan and **A. M. H. Wong**, "Miniaturized-element frequency selective surface assisted dual-polarized broadband high-gain resonance cavity antenna," *Photonics and Electromagnetics Research Symposium (PIERS)*, Prague, Czechia, Jul. 2023.
- C46. B. Xue and **A. M. H. Wong**, "Toward electromagnetic near-field mutual coupling suppression with active Janus sources," *Photonics and Electromagnetics Research Symposium (PIERS)*, Prague, Czechia, Jul. 2023.
- C45. **A. M. H. Wong**, C. Qi, X. He and T. A. Khan, "Passive and active discrete metasurfaces: High-efficiency, wide-angle and broadband applications," *IEEE Asia-Pacific Conference on Antennas and Propagation (APCAP)*, Xiamen, China, Nov. 2022. (**Invited**)

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- C44. X. He and **A. M. H. Wong**, “A dual-polarized high-NA achromatic transmission Huygens’ metalens,” *International Symposium on Antennas and Propagation (ISAP)*, Sydney, Australia, Oct. 2022.
- C43. T. A. Khan and **A. M. H. Wong**, “Wideband RCA using a true-time-delay metasurface: An experimental demonstration,” *International Symposium on Antennas and Propagation (ISAP)*, Sydney, Australia, Oct. 2022.
- C42. K. A. Oyesina and **A. M. H. Wong**, “Experimental demonstration of the metamaterial-based beam-steerable Huygens’ box antenna with dramatically reduced phasing elements,” *IEEE International Symposium on Antennas and Propagation (AP-S)*, Denver, USA, Jul. 2022. **(Honourable Mention)**
- C41. A. Sharma and **A. M. H. Wong**, “Metasurface-enabled full 360° azimuth surface-level beam scanning antenna system,” *IEEE International Symposium on Antennas and Propagation (AP-S)*, Denver, USA, Jul. 2022.
- C40. B. Xue and **A. M. H. Wong**, “Active Janus and Huygens sources: Achieving near-field and far-field directionality control,” *IEEE International Symposium on Antennas and Propagation (AP-S)*, Denver, USA, Jul. 2022.
- C39. K. A. Oyesina, B. Xue and **A. M. H. Wong**, “Equivalence Principle-Based Wrapped Active Metasurfaces and their Application,” *IEEE MTT-S International Conference on Electromagnetic and Multiphysics Modeling and Optimization (NEMO 2022)*, Limoges, France, Jul. 2022. **(Invited)**
- C38. A. Sharma and **A. M. H. Wong**, “Floquet mode circulation using a coarsely discretized dielectric Huygens’ metasurface,” *3rd URSI Atlantic / Asia-Pacific Radio Science Meeting (AT-AP-RASC 2022)*, Gran Canaria, Spain, May 2022.
- C37. T. A. Khan and **A. M. H. Wong**, “Wideband high-gain open resonator antenna using a flat impedance surface,” *IEEE International Symposium on Antennas and Propagation (AP-S)*, Singapore, Dec. 2021.
- C36. A. Sharma and **A. M. H. Wong**, “Dimer dielectric Huygens’ metasurface: Realizing perfect anomalous reflection at 60 GHz,” *IEEE International Symposium on Antennas and Propagation (AP-S)*, Singapore, Dec. 2021.
- C35. P. Li, T. A. Khan and **A. M. H. Wong**, “A wideband high-gain resonator cavity antenna with 2-level stepped ground,” *2021 Asia-Pacific Microwave Conference (APMC)*, Brisbane, Australia, Dec. 2021.
- C34. C. Qi and **A. M. H. Wong**, “Aggressively discretized Huygens’ metasurface: Realizing efficient anomalous refraction with a simple design,” *15th International Congress on Artificial Materials for Novel Wave Phenomena - Metamaterials 2021*, New York, USA, Aug. 2021.
- C33. A. Sharma, C. Qi, K. A. Oyesina and **A. M. H. Wong**, “Coarsely discretized Huygens’ metasurface: Manipulating EM waves with simplicity,” *IEEE International Conference on Electronics, Computing and Communication Technologies 2021 (IEEE CONECCT)*, Bangalore, India, Jul. 2021.
- C32. **A. M. H. Wong**, C. Qi and X. He, “Improving efficiency, bandwidth and tolerance with aggressively discretized metasurfaces,” *2021 International Conference on Microwave and Millimeter Wave Technology*, Nanjing, May 2021. **(Invited)**
- C31. C. Xue and **A. M. H. Wong**, “A wide-angle series-fed active metasurface,” *2020 Asia-Pacific Microwave Conference (APMC)*, Hong Kong, China, Dec. 2020.

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- C30. K. A. Oyesina and **A. M. H. Wong**, "Metamaterial-loaded Huygens' box antenna: Highly-directive beam steering with very few phasing elements," *2020 Asia-Pacific Microwave Conference (APMC)*, Hong Kong, China, Dec. 2020.
- C29. A. Sharma and **A. M. H. Wong**, "Sparsely discretized refracting dielectric Huygens' metasurface at 28 GHz," *2020 Asia-Pacific Microwave Conference (APMC)*, Hong Kong, China, Dec. 2020.
- C28. **A. M. H. Wong**, "Controlling electromagnetic waves with passive dielectric Huygens' metasurfaces," *IEEE Asia-Pacific Conference on Antennas and Propagation (APCAP)*, Xiamen, China, Aug. 2020. (Convened Online) **(Invited)**
- C27. A. Sharma and **A. M. H. Wong**, "Controlling wavefront using a coarsely discretized dielectric Huygens' metasurface," *IEEE International Symposium on Antennas and Propagation (AP-S)*, Montreal, Canada, Jul. 2020.
- C26. C. Xue, G. G. L. Zhou and **A. M. H. Wong**, "Improving homogeneity for MRI RF field at 3T using a Huygens' box," *IEEE International Symposium on Antennas and Propagation (AP-S)*, Montreal, Canada, Jul. 2020.
- C25. T. A. Khan and **A. M. H. Wong**, "Achieving wideband beam-splitting with an ultrathin discrete Huygens' metasurface," *IEEE International Symposium on Antennas and Propagation (AP-S)*, Montreal, Canada, Jul. 2020.
- C24. A. Sharma and **A. M. H. Wong**, "Towards efficient EM wave manipulation using a discrete dielectric Huygens' metasurface," *2020 European Conference on Antennas and Propagation (EuCAP)*, Copenhagen, Denmark, Jun. 2020.
- C23. C. Qi and **A. M. H. Wong**, "A coarsely discretized Huygens' metasurface for anomalous transmission," *2019 Asia-Pacific Microwave Conference (APMC)*, Singapore, Dec. 2019.
- C22. C. Qi and **A. M. H. Wong**, "Circulating spin angular momentum nodes using a discretized metasurface," *2019 Asia-Pacific Microwave Conference (APMC)*, Singapore, Dec. 2019.
- C21. K. A. Oyesina and **A. M. H. Wong**, "The Huygens' Box antenna: Metasurface-based directive antenna beam-steering with dramatically reduced elements," *IEEE International Symposium on Antennas and Propagation (AP-S)*, Atlanta, USA, Jul. 2019. **(Honourable Mention)**
- C20. **A. M. H. Wong**, "Discretized Huygens' metasurface: motivation and progress," *The 9th International Multidisciplinary Conference on Optofluidics (IMCO2019)*, Hong Kong SAR, China, Jun. 2019. **(Invited)**
- C19. P. Ang, **A. M. H. Wong** and G. V. Eleftheriades, "Equivalence-principle-based active metasurfaces," *URSI Commission B International Symposium on Electromagnetic Theory (URSI EMTS)*, San Diego, USA, May 2019. **(Invited)**
- C18. **A. M. H. Wong** and K. A. Oyesina, "Building simple and effective metasurfaces by coarse discretization," *The sixth IEEE MTT-S International Wireless Symposium (IEEE IWS)*, Guangzhou, China, May 2019. **(Invited)**
- C17. K. A. Oyesina, O. Z. Aly, G. G. L. Zhou and **A. M. H. Wong**, "Active Huygens' box: Arbitrary synthesis of EM waves in metallic cavities," *2019 International Applied Computational Electromagnetic Society (ACES) Symposium*, Miami, USA, Apr. 2019. **(Invited)**

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- C16. **A. M. H. Wong** and G. V. Eleftheriades, "Experimental demonstration of the Huygens' box: Arbitrary waveform generation in a metallic cavity," *IEEE International Symposium on Antennas and Propagation (AP-S)*, Boston, USA, Jul. 2018.
- C15. **A. M. H. Wong**, "Arbitrary beamforming with a discretized Huygens' metasurface," *International Workshop on Antenna Technology*, Nanjing, China, Mar. 2018. **(Invited)**
- C14. **A. M. H. Wong** and G. V. Eleftheriades, "Perfect anomalous reflection with an aggressively discretized Huygens' metasurface," *32nd URSI General Assembly & Scientific Symposium*, Paper B20-3, Montreal, Canada, Aug. 2017. **(Young Scientist Award Winner)**
- C13. X. H. Dong, **A. M. H. Wong** and G. V. Eleftheriades, "Super-resolution far-field imaging of structured objects using superoscillations," *IEEE International Symposium on Antennas and Propagation (AP-S)*, San Diego, USA, Jul. 2017.
- C12. **A. M. H. Wong**, P. Christian and G. V. Eleftheriades, "Binary Huygens' metasurface: a simple and efficient retroreflector at near-grazing angles," *UNSC-URSI National Radio Science Meeting*, Paper B1-1, Boulder, USA, Jan. 2017. *(Invited)*
- C11. **A. M. H. Wong** and G. V. Eleftheriades, "Active Huygens' metasurfaces for RF waveform synthesis in a cavity," *IEEE Mediterranean Electrotechnical Conference (MELECON)*, Track T6.1, Limassol, Cyprus, Apr. 2016.
- C10. **A. M. H. Wong** and G. V. Eleftheriades, "A simple active Huygens source for studying waveform synthesis with Huygens metasurfaces and antenna arrays," *IEEE International Symposium on Antennas and Propagation (AP-S)*, Paper WE-A2.1P.6. Vancouver, Canada, Jul. 2015. **(Raj Mittra Travel Grant Winner)**
- C9. A. Ludwig, J.P.S. Wong, A. Epstein, **A. M. H. Wong**, G. V. Eleftheriades and C.D. Sarris, "Focusing and steering for medical applications with magnetic near-field arrays and metasurfaces," *European Conference on Antennas and Propagation (EuCAP)*, Lisbon, Portugal, Apr. 2015. **(Invited)**
- C8. **A. M. H. Wong** and G. V. Eleftheriades, "Superdirectivity-based superoscillatory waveform design: a practical path to far-field sub-diffraction imaging," *European Conference on Antennas and Propagation (EuCAP)*, The Hague, Netherlands, Apr. 2014. **(TICRA grant winner)**
- C7. G. V. Eleftheriades, L. Markley and **A. M. H. Wong**, "Sub-wavelength focusing and imaging using shifted-beam and super-oscillation antenna arrays," *IEEE International Symposium of Antenna Technology and Applied Electromagnetics (ANTEM)*, Toulouse, France, Jun. 2012. **(Invited)**
- C6. **A. M. H. Wong** and G. V. Eleftheriades, "Superoscillatory antenna arrays for sub-diffraction focusing at the multi-wavelength range in a waveguide environment," *IEEE International Symposium on Antennas and Propagation (AP-S)*, Paper 230.5. Toronto, Canada, Jul. 2010. **(Student paper competition finalist)**
- C5. G. V. Eleftheriades, A. K. Iyer and **A. M. H. Wong**, "Transmission-line metamaterial lenses and metascreens for free-space superlensing," *2<sup>nd</sup> International Congress on Advanced Electromagnetic Materials in Microwave and Optics*. Pamplona, Spain, Sept. 2008.
- C4. Y. Wang, **A. M. H. Wong**, A.S. Helmy and G. V. Eleftheriades, "Plasmonic nano-slot antennas for optical sub-wavelength focusing," *General Assembly of the International Union of Radio Science (URSI GA)*, Paper No. 2573. Chicago, USA, Aug. 2008.

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- C3. **A. M. H. Wong** and G. V. Eleftheriades, "Experimental verification of subwavelength focusing via a holographic metallic screen," *IEEE International Symposium on Antennas and Propagation (AP-S)*, Paper 302.2. San Diego, USA, Jul. 2008. **(Invited paper with honourable mention)**
- C2. L. Qian, **A. M. H. Wong**, S. A. Neata and X. Gu, "Simple and efficient optical pulse shaping: new algorithm and experimental demonstration," *Conference on Lasers and Electro-optics (CLEO 2006)*, paper JWB33. Long Beach, USA, May 2006.
- C1. S. A. Neata, **A. Wong**, L. Qian, X. Gu and P. W. E. Smith, "Versatile optical pulse shaping using a linearly chirped fiber Bragg grating and an amplitude mask," *Photonics North*, Paper 5970B-94. Toronto, Canada, Sept. 2005.

### Non-refereed Contributions

- M65. **A. M. H. Wong**, "Tailoring EM waves at will with discrete and reconfigurable metasurfaces," *Workshop on Unconventional Antenna Array Technologies for Millimeter-Wave Communications and Sensing, IEEE MTT-S International Wireless Symposium (IWS 2026)*, Shenzhen, China, May 2026. **(Invited)** (Accepted)
- M64. **A. M. H. Wong**, "EM metasurfaces for antennas and wireless communication (用于天线和无线传输的电磁超表面)," *CityU & Huawei Terminal Collaborative Exchange Meeting*, Hong Kong, China, Feb. 2026.
- M63. **A. M. H. Wong**, "Applied electromagnetic metasurfaces for antennas and wireless communication (用于天线和无线传输的电磁超表面)," *Visit to HONOR Device Co., Ltd.*, Shenzhen, China, Nov. 2025.
- M62. B.-W. Ren, X. He and **A. M. H. Wong**, "1.5 GHz non-invasive directional deep brain stimulation with improved focus size and minimized input power," *The 26th IEEE (SZ/HK) AP/MTT Postgraduate Conference*, Shenzhen, China, Nov. 2025. **(Best Paper Award)**
- M61. C. Xue and **A. M. H. Wong**, "1.5 GHz non-invasive directional deep brain stimulation with improved focus size and minimized input power," *The 26th IEEE (SZ/HK) AP/MTT Postgraduate Conference*, Shenzhen, China, Nov. 2025.
- M60. S. Lei and **A. M. H. Wong**, "Time-domain full-wave simulation of modulation speeds of time-varying digital metasurfaces," *The 26th IEEE (SZ/HK) AP/MTT Postgraduate Conference*, Shenzhen, China, Nov. 2025.
- M59. H. Dong, Y. Li and **A. M. H. Wong**, "Dual-polarized anisotropic frequency selective surface supporting wide range of incident angle," *The 26th IEEE (SZ/HK) AP/MTT Postgraduate Conference*, Shenzhen, China, Nov. 2025.
- M58. **A. M. H. Wong**, "Tailoring EM waves at will with active directional sources," *Applied Physics Review Global Lecture*, AIP Publishing and the College of Information Science & Electronic Engineering, Zhejiang University, Hangzhou, China, Oct. 2025.
- M57. **A. M. H. Wong**, "Tailoring EM waves at will with discrete metasurfaces," *2025 International Workshop on Intelligent Information and Communication Technologies (iW-IICT)*, Southeast University, Nanjing, China, Oct. 2025.
- M56. **A. M. H. Wong**, "Creative EM wave engineering with discrete metasurfaces and active directional sources," *HIT – CityU HK Workshop on Applied Electromagnetics, Electrical and Electronic Engineering*, City University of Hong Kong, Hong Kong, China, Oct. 2025.

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- M55. **A. M. H. Wong**, “Tailoring EM waves at will with discrete metasurfaces and active directional sources,” *Seminar at the University of Toronto*, Toronto, Canada, Jul. 2025.
- M54. **A. M. H. Wong**, “以離散超表面調控電磁波 (On-demand EM wave engineering using discrete metasurfaces),” *2025 華中科技大學集成電路學院 - 香港城市大學電機工程學系雙邊論壇 (2025 HUST College of Integrated Circuits - CityU Department of Electrical Engineering Bilateral Forum)*, Wuhan, China, Apr. 2025.
- M53. **A. M. H. Wong**, “以離散超表面調控電磁波 (Controlling EM waves with discrete metasurfaces),” *CityU & Huawei Terminal Collaborative Exchange Meeting*, Hong Kong, China, Mar. 2025.
- M52. **A. M. H. Wong**, “以離散超表面調控電磁波 (Using discrete metasurfaces to control EM waves),” *大灣區-華為 2012 天綫工程技術工作坊 (Greater Bay Area - Huawei 2012 Antenna Engineering Technical Workshop)*, Dongguan, China, Nov. 2024.
- M51. **A. M. H. Wong**, “Tailoring EM waves with discrete metasurfaces and active electromagnetic dipoles,” *Technical Seminar, State Key Laboratory of Terahertz and Millimeter Waves*, Hong Kong, China, Nov. 2024.
- M50. **A. M. H. Wong**, “Tailoring EM waves with discrete metasurfaces,” *The 2024 Cross Strait Radio Science and Wireless Technology Conference*, Macao, China, Nov. 2024.
- M49. B. Xue and **A. M. H. Wong**, “Janus antenna: A solution for broadband near-field directionality,” *The 25th IEEE (GZ/HK) AP/MTT Postgraduate Conference*, Zhuhai, China, Oct. 2024.
- M48. I. Islam, B. Ren and **A. M. H. Wong**, “Remote-controlled metasurfaces and metamaterials,” *The 25th IEEE (GZ/HK) AP/MTT Postgraduate Conference*, Zhuhai, China, Oct. 2024.
- M47. **A. M. H. Wong**, “Tailoring EM waves with discrete metasurfaces and active electromagnetic dipoles,” *Invited Talk*, Nanjing University, Nanjing, China, Sept. 2024.
- M46. T. A. Khan and **A. M. H. Wong**, “True-time-delay metasurface enabled resonant cavity antennas,” *The 15<sup>th</sup> Global Symposium on Millimeter-Waves and Terahertz (GSMM)*, Hong Kong, China, May 2024.
- M45. B. Xue and **A. M. H. Wong**, “Mitigating mutual coupling in the near-field with active Janus sources,” *The 24th IEEE (GZ/HK) AP/MTT Postgraduate Conference*, Guangzhou, China, Oct. 2023.
- M44. **A. M. H. Wong**, “Discrete electromagnetic metasurfaces and sources: Theory, design and applications,” *第一屆香港城市大學- 華南理工大學 電信行業學術交流峰會 (1st CityU - SCUT Telecommunication Academic Exchange)*, Guangzhou, China, Jun. 2023.
- M43. **A. M. H. Wong**, “Passive and active discrete metasurfaces: High-efficiency, wide-angle and broadband applications,” *Huawei-CityU Exchange Meeting*, City University of Hong Kong, Hong Kong SAR, China, Apr. 2023.
- M42. **A. M. H. Wong**, “Microwave meta-devices: Theory, design and applications,” *2023 Meta-Devices Area of Excellence Workshop*, City University of Hong Kong, Hong Kong SAR, China, Mar. 2023.
- M41. S. Lei, X. He and **A. M. H. Wong**, “Simulation and design of curved unit cells for cylindrical metasurface,” *The 23rd IEEE (HK) AP/MTT Postgraduate Conference*, City University of Hong Kong, Hong Kong SAR, China, Nov. 2022.

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- M40. B. Xue and **A. M. H. Wong**, "Directional and selective coupling with active Huygens and Janus sources," *The 23rd IEEE (HK) AP/MTT Postgraduate Conference*, City University of Hong Kong, Hong Kong SAR, China, Nov. 2022.
- M39. M. Abdelbaky, A. Sharma and **A. M. H. Wong**, "Towards the experimental demonstration of a 360° surface-level scanning cylindrical metasurface," *The 23rd IEEE (HK) AP/MTT Postgraduate Conference*, City University of Hong Kong, Hong Kong SAR, China, Nov. 2022.
- M38. **A. M. H. Wong**, "Metasurfaces: Controlling Electromagnetic Waves," *Invited Presentation to SmarTone Telecommunications Holdings Ltd.*, Hong Kong SAR, China, May 2022. (Online)
- M37. T. A. Khan and **A. M. H. Wong**, "Design of an open resonator antenna using true time delay metasurfaces," *The 22<sup>nd</sup> IEEE (HK) AP/MTT Postgraduate Conference*, Hong Kong SAR, China, Nov. 2021.
- M36. **A. M. H. Wong**, "Discrete Huygens' metasurfaces: Controlling EM waves with simplicity," *21st Century Scientific Forefront Seminar Series*, Beijing Institute of Technology, Beijing, China, Nov. 2020. (Online)
- M35. **A. M. H. Wong**, "Metasurfaces: Controlling Electromagnetic Waves," *Invited Presentation to Huawei Technology Co. Ltd.*, Hong Kong SAR, China, May 2020. (Online)
- M34. **A. M. H. Wong**, "Employing discreteness in metasurface design," *Invited Talks*, Nanjing University, Southeast University and Zhejiang University, Nanjing and Hangzhou, China, Nov. 2019. (4 talks)
- M33. X. He and **A. M. H. Wong**, "Anomalous reflection with a transparent coding metasurface," *IEEE SZ/HK AP/MTT Postgraduate Conference*, Southern University of Science and Technology, Shenzhen, China, Nov. 2019.
- M32. G. G. L. Zhou and **A. M. H. Wong**, "Improving illumination uniformity for magnetic resonance imaging using a Huygens' box," *IEEE SZ/HK AP/MTT Postgraduate Conference*, Southern University of Science and Technology, Shenzhen, China, Nov. 2019.
- M31. **A. M. H. Wong**, "Building Antennas and Imaging Devices with Discrete Metasurfaces," *EM Talks*, University of Toronto, Toronto, Canada, Jul. 2019.
- M30. **A. M. H. Wong**, "Discretized Huygens' Metasurface: Motivation and Progress," *Invited Talk*, Nazarbayev University, Nur-Sultan, Kazakhstan, Jun. 2019.
- M29. **A. M. H. Wong**, "Manipulating Electromagnetic Waves at will with Passive and Active Discretized Huygens' Metasurfaces" *Invited Talk*, Hong Kong University of Science and Technology, Hong Kong SAR, China, Dec. 2018
- M28. **A. M. H. Wong**, "Coarsely-Discretized Huygens' Metasurfaces for Imaging and Antenna Systems," *Joint SKLTMW-XLIM Workshop on Electronic Science*, City University of Hong Kong, Hong Kong SAR, China, Dec. 2018.
- M27. **A. M. H. Wong**, "Invisibility Cloaks and Super-Resolution Nanoscopes: Seeing Things with EM Waves," *Lecture Series on Science and Technology*, City University of Hong Kong, Hong Kong SAR, China, Nov. 2018 - May. 2019. (4 talks)

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- M26. K. A. Oyesina, O. Z. Aly, G. G. L. Zhou and **A. M. H. Wong**, “Huygens’ Box: Generating Arbitrary Waveforms Inside Metallic Cavities,” *IEEE HK AP-MTT Postgraduate Conference*, Chinese University of Hong Kong, Hong Kong, China, Nov. 2018.
- M25. **A. M. H. Wong**, “Arbitrary Electromagnetic Wave Manipulation with a Huygens’ Metasurface,” *Advanced Photonics Conference: Greater Bay Area Symposium for Wave Functional Materials*, Southern University of Science and Technology, Shenzhen, China, Jun. 2018.
- M24. **A. M. H. Wong**, “Superoscillations and Metasurfaces: Ideas for Arbitrary Wave Manipulation,” *Electronic Engineering Multidisciplinary Forum*, City University of Hong Kong, Hong Kong, China, Mar. 2018.
- M23. **A. M. H. Wong**, “Discrete Huygens’ Metasurfaces and the Huygens’ Box: Frontiers in Electromagnetic Metasurfaces,” *Invited Talk*, Huazhong University of Science and Technology, Wuhan, China, Mar. 2018.
- M22. **A. M. H. Wong**, “Bipartite Huygens’ Metasurfaces and the Huygens’ Box: Frontiers in Electromagnetic Metasurfaces,” *Invited Talk*, Zhejiang University, Hangzhou, China, Mar. 2018.
- M21. **A. M. H. Wong**, “Imaging Beyond the Diffraction Limit with Superoscillatory Electromagnetic Waves,” *Invited Talk*, Zhejiang University, Hangzhou, China, Mar. 2018.
- M20. **A. M. H. Wong**, “Discrete Huygens’ Metasurface and Huygens’ Box: One-Sided Electromagnetic Metasurfaces,” *Area of Excellence Young Members Presentation*, City University of Hong Kong, Hong Kong, China, Feb. 2018.
- M19. **A. M. H. Wong**, “Discrete Huygens’ Metasurfaces: Motivations and Progress,” *EM Talks*, University of Toronto, Dec. 2017.
- M18. **A. M. H. Wong**, “Superoscillation and Metasurfaces: Their Design and Applications,” *Electro-optics and Microelectronics Seminar*, Technion – Israel Institute of Technology, Haifa, Israel, Nov. 2017.
- M17. **A. M. H. Wong**, X.H. Dong and G. V. Eleftheriades, “An Antenna Array Approach to Optical Super-Oscillation Microscopy,” *The Physics and Technology of Superoscillations Conference*, Institute of Physics, London, United Kingdom, Oct 2017.
- M16. **A. M. H. Wong**, “Active Metasurfaces: Electromagnetic Cloaking and Related Applications,” *Presentation of behalf of Eleftheriades Research Group to Huawei Corp.*, Toronto, Oct 2017.
- M15. **A. M. H. Wong**, “Turning physics around with metamaterials,” *Invited Research Presentation*, Class of ECE259, Department of Electrical and Computer Engineering, University of Toronto, Feb 2017.
- M14. **A. M. H. Wong**, “Superoscillation and metasurfaces: electromagnetic engineering connecting science and technology,” *Invited Seminar*, City University of Hong Kong, Hong Kong, China, Jan. 2017.
- M13. **A. M. H. Wong**, “Super-resolution imaging with superoscillation EM waves,” *EM Talks*, University of Toronto, Nov. 2016.
- M12. **A. M. H. Wong**, “On super-resolution imaging and electromagnetic metasurfaces,” *Invited Lecture*, City University of Hong Kong, China, Sept. 2016.
- M11. **A. M. H. Wong**, “Engineering superoscillatory EM waves,” *IEEE Invited Lecture*, University of Hong Kong, Hong Kong, China, Apr. 2015.

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- M10. **A. M. H. Wong**, “Engineering superoscillatory EM waves,” *IEEE Invited Lecture*, City University of Hong Kong, Hong Kong, China, Apr. 2015.
- M9. G. V. Eleftheriades and **A. M. H. Wong**, “Feasibility Study of a High-Resolution on-Train Radar,” *Technical Lecture to Thales Corp.*, Toronto, Canada, Jan 2015. (Presented by **A. M. H. Wong**)
- M8. **A. M. H. Wong**, “Superoscillation-based optical sub-diffraction microscopy,” *Electromagnetics-Photonics Graduate Seminar*, Department of Electrical and Computer Engineering, University of Toronto, May 2013. (**3<sup>rd</sup> place presentation**)
- M7. **A. M. H. Wong**, “Optical Super-Microscope: imaging beyond the diffraction limit,” *Connections 2013: Departmental Graduate Symposium*, Department of Electrical and Computer Engineering, University of Toronto, May. 2013.
- M6. **A. M. H. Wong**, “Temporal superoscillations: faster than Fourier?,” *Connections 2012: Departmental Graduate Symposium*, Department of Electrical and Computer Engineering, University of Toronto, May. 2012. (**Best presentation winner**)
- M5. **A. M. H. Wong**. “Research on metamaterials and related fields,” *Electromagnetics Group Introduction Meeting*, Department of Electrical and Computer Engineering, University of Toronto, Sept. 2011.
- M4. **A. M. H. Wong**. “Sub-diffraction focusing with propagating waves,” *Electromagnetics-Photonics Graduate Seminar*, Department of Electrical and Computer Engineering, University of Toronto, May 2011.
- M3. **A. M. H. Wong**, “Squeezing electromagnetic waves: motivations, challenges and potential solutions,” *Connections 2010: Departmental Graduate Symposium*, Department of Electrical and Computer Engineering, University of Toronto, May 2010.
- M2. **A. Wong**, “Picosecond pulse shaping using Fiber Bragg gratings,” Poster presentation (with verbal component), *Departmental Summer Undergraduate Research Program*, Department of Electrical and Computer Engineering, University of Toronto, Aug. 2005. (**Best poster presentation winner**)
- M1. **A. Wong**, “Optical pulse shaping for performance improvement in an AFP switch,” Poster presentation (with verbal component), *Engineering Science Research Day*, University of Toronto, Aug. 2005.

### Intellectual Property Disclosures

- I4. **A. M. H. Wong**, W. Chen and S. Y. R. Hui, “Use of multiple meta-surfaces as an electromagnetic field shield,” US Provisional Patent US 63/896,261, Oct. 2025. (Filed)
- I3. A. Green, P. Timmermans, W. Kinio, **A. M. H. Wong**, P. Christian and G. V. Eleftheriades, “Near-Grazing Retroreflectors for Polarization,” US Patent WO/2019/082164, May. 2019.
- I2. **A. M. H. Wong**, P. Christian and G. V. Eleftheriades, “Binary Retroreflective Metasurface,” Invention Disclosure No. 10003506, University of Toronto Nov. 2017.
- I1. G. V. Eleftheriades and **A. M. H. Wong**, “Far-Field Optical Super-Microscope,” Intellectual Property Disclosure No. 10002553, University of Toronto, Feb. 2013.

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### TEACHING EXPERIENCE

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- **5G Circuit Design (EE4107) , City Univ. of Hong Kong:**
  - *Class Size:* About 10-40 students
  - *Role:* Course Instructor (2019 – Present)
- **Applied Electromagnetics (EE3109) , City Univ. of Hong Kong:**
  - *Class Size:* About 30-75 students
  - *Role:* Course Instructor (2019 – Present)
- **Microwave Circuits (ECE424/ECE1256) , Univ. of Toronto:**
  - *Class Size:* About 20 students
  - *Role:* Substitute lecturer (2017)
- **Microwave and mm-Wave Techniques (ECE1243) , Univ. of Toronto:**
  - *Class Size:* About 15 students
  - *Role:* Substitute lecturer (2016)
- **Electromagnetic Fields (ECE357) , Univ. of Toronto:**
  - *Class Size:* About 30 students
  - *Role:* Tutorial Instructor (2011)
- **Fields and Waves (ECE320) , Univ. of Toronto:**
  - *Class Size:* From 10 to 30 students
  - *Roles:* Substitute Lecturer (2013-2016), Tutorial Instructor (2009-2011, 2013), Laboratory Supervisor (2012), Grader (2007)
- **Fundamentals of Optics (ECE318) , Univ. of Toronto:**
  - *Class Size:* from 10 to 30 students
  - *Role:* Tutor (2008-2012, 2014)
- **Electric and Magnetic Fields (ECE221) , Univ. of Toronto:**
  - *Class Size:* about 50 students
  - *Role:* Laboratory Supervisor (2007)
- **Fundamentals of Electric Circuits (ECE159) , Univ. of Toronto:**
  - *Class Size:* from 10 to 40 students
  - *Role:* Laboratory Supervisor (2010)

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### PROFESSIONAL ACTIVITIES

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- **Academic Societal Participation:** Senior Member, IEEE (AP, MTT and Phot. Societies)
- **Active reviewer for academic journals, which include:**
  - *Nature Photonics*
  - *Nature Communications*
  - *Light: Science and Applications*
  - *Nature Review Physics*
  - *Science Advances*
  - *Optica*
  - *Advanced Optical Materials*
  - *Laser & Photonics Reviews*
  - *Photonix*
  - *ACS Photonics*
  - *Nanophotonics*
  - *Applied Physics Letters*
  - *IEEE Transactions on Antennas and Propagation*
  - *IEEE Transactions on Microwave Theory and Techniques*
  - *IEEE Antennas and Wireless Propagation Letters*
  - *IEEE Transactions on Signal Processing*
  - *IEEE Transactions on Neural Systems & Rehabilitation Engineering*
  - *IEEE Journal on Lightwave Technologies*
  - *IEEE Journal on Power Electronics*
  - *Journal of the Optical Society of America B*
  - *PIER Journal of Electromagnetic Waves and Applications*
  - *Microwave and Optical Technology Letters*
  - *IET Electronics Letters*
  - *Results in Physics*
- **Service for Journals, International Conferences and Workshops:**
  - General Co-Chair
    - International Workshop on Electromagnetics (iWEM 2025)
    - IEEE (HK) AP/MTT Postgraduate Conference 2022
  - Technical Program Committee Vice Chair:
    - Asia-Pacific Microwave Conference (APMC 2020)
  - Publicity Chair
    - Global Symposium on Millimeter-Waves & Terahertz (GSMM 2024)
  - Guest Co-Editor:
    - IEEE Transactions on Microwave Theory and Techniques: 2020 APMC Special Issue
  - Technical and/or review committee member:
    - Asia-Pacific Conference on Antennas and Propagation (APCAP 2024)
    - Global Symposium on Millimeter-Waves & Terahertz (GSMM 2024)
    - International Workshop on Antenna Technology (iWAT 2023)
    - IEEE International Symposium on Antennas and Propagation (2016-2020; 2023-2026)
    - USNC-URSI Radio Science Meeting (URSI 2016)
    - IEEE Conference on Computational Electromagnetics (ICCEM 2016)
  - Workshop Organizer:
    - Asia-Pacific Microwave Conference (APMC 2020)
  - Special Session Organizer:
    - Global Symposium on Millimeter-Waves & Terahertz (GSMM 2024)
    - International Symposium on Antennas and Propagation (ISAP 2022)
  - Session Chair:
    - Cross Strait Radio Science and Wireless Technology Conference (CSRCWTC 2024)
    - Global Symposium on Millimeter-Waves & Terahertz (GSMM 2024)
    - International Conference on Microwave and Millimeter Wave Technology (ICMMT 2024)
    - International Symposium on Antennas and Propagation (ISAP 2022)
    - Asia-Pacific Conference on Antennas and Propagation (APCAP 2020, 2022, 2024)
    - International Conference on Microwave and Millimeter Wave Technology (ICMMT 2021)
    - IEEE International Symposium on Antennas and Propagation (2015, 2020-2021)
    - Asia Pacific Microwave Conference (APMC 2021)
    - IEEE International Wireless Symposium (IWS 2019)
    - IEEE International Workshop on Antenna Technology (iWAT 2018)
    - IOP Workshop on The Physics and Technology of Superoscillations (2017)

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- Technical Judge:
  - Best Student Paper Competition: 2020 UK/Europe-China Workshop on Millimetre-Waves and Terahertz Technologies (Tianjin, China, Convened online)
  - Best Poster Competition: 2019 IEEE International Wireless Symposium (Guangzhou, China)
  - Best Paper Competition: 2018 IEEE HK AP-MTT Postgraduate Student Conference (Hong Kong, China)
- Volunteer: 2010 IEEE International Symposium on Antennas and Propagation (Toronto, Canada)
  
- **Service for the IEEE Technical Societies:**
  - Committee Member: IEEE AP-S Technical Committee on Electromagnetics & Fundamentals (2024 – Present)
  
- **Service for the IEEE AP/MTT Hong Kong Chapter:**
  - Vice Chair (2024 – Present)
  - Secretary (2022 – 2023)
  - Planner and Host: IEEE Microwave Distinguished Lectures and Virtual Seminars (2020 – 2022)
  
- **University Institutional Service:**
  - Programme Leader: Taught Postgraduate (MSc) Programmes, Department of Electrical Engineering (CityU HK, 2023 – Present)
  - Member: Sub-committee of Master Programmes, College of Engineering (CityU HK, 2024 – Present)
  - Associate Programme Leader: Microelectronics Engineering Major (CityU HK, 2022 – 2023)
  - Co-ordinator: Departmental Undergraduate Research Fellowship program (CityU HK, 2019 – 2024)
  - Undergraduate Admission Tutor (CityU HK, 2018 – 2022)
  - Co-organizer: First International CityU EE Conference (CityU HK, Nov 2018)
  - Co-ordinator: Electronic Engineering Multidisciplinary Forum (CityU HK, Mar-Sep 2018)
  
- **Community Service:**
  - Technical Judge, Mass Transit Railway (HK) STEM Challenge (2019)
  - Appeal Board Panel Member, Electrical and Mechanical Services Department (EMSD), Government of Hong Kong (2018 –2024)

**References Available Upon Request**