ALEX M. H. WONG
Website: www.ee.cityu.edu.hk/~amhwong/
Email: alex.mh.wong@cityu.edu.hk
Tel: (852) 3442-9079

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

EDUCATION

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

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

RESEARCH EXPERIENCE

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.

ALEX M. H. WONG
Website: www.ee.cityu.edu.hk/~amhwong/
Email: alex.mh.wong@cityu.edu.hk
Tel: (852) 3442-9079

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

SELECTED AWARDS AND ACHIEVEMENTS

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 Metantennas and Beamsteering Antennas – Third Prize Student Paper Award (Co-authored with B.-W. Ren, C. Qi, P. Li and X. He)*** **(Mar 2026)**

7. ***Marina Forum on Metatennas and Antenna Systems – First Prize Student Paper Award (Co-authored with B. Xue and K. A. Oyesina)*** **(Mar 2025)**

8. ***URSI Young Scientist Award*** **(Aug 2017)**

9. ***Raj Mittra Travel Grant*** **(Jul 2015)**

10. ***TICRA Travel Grant*** **(Apr 2014)**

11. ***Graduate Student Endowment Fund*** **(Apr 2013)**

12. ***Departmental Doctoral Completion Award*** **(2012 – 2013)**

13. ***Connections Symposium: 1st Place Award*** **(May 2012)**

14. ***Ontario Graduate Scholarship (Doctoral) (OGS D)*** **(2009 – 2010, Declined)**

15. ***IEEE Society of Antennas and Propagation Symposium 2008: Student Paper Competition Honourable Mention*** **(Jul 2008)**

16. ***Natural Science and Engineering Research Council of Canada: Postgraduate Scholarship (Master) (NSERC PGSM)*** **(2007 – 2008)**

ALEX M. H. WONG
Website: www.ee.cityu.edu.hk/~amhwong/
Email: alex.mh.wong@cityu.edu.hk
Tel: (852) 3442-9079

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

ACADEMIC CONTRIBUTIONS

Refereed Journal Papers (Citation counts courtesy Google Scholar, Nov. 15th, 2026)

J55. B. Xue, Q. Li, Y. Cheng, W. Ma, X. Chen, W. Tong, J. Jung, R. Jia, K. Chen, Y. Feng, X. Lin, S. Wang and **A. M. H. Wong**, "Janus dipoles: Fundamentals, realizations, and emerging applications," Aug. 2026. (Submitted)

J54. B.-W. Ren, S. Gao, X. He, K. M. Luk and **A. M. H. Wong**, "Broadband achromatic anomalous reflection and focusing using magnetoelectric dipole metasurface," Aug. 2026. (Submitted)

J53. W. Chen, Q. Ma and **A. M. H. Wong**, "Parallel diffractive deep neural network enabled by polarization-multiplexing metasurfaces," Jun. 2026. (Submitted)

J52. Z. Lin, Y. Wang, R. Jia, K. Duan and **A. M. H. Wong**, "Metacavity for high-degree-of-freedom wavefront manipulation through a reconfigurable scattering constellation," May 2026. (Submitted)

J51. S. Dong, K. Duan, J. Lu, **A. M. H. Wong** and Y. Guo, "Contactless jugular venous pulse waveform detection with a metalens-integrated near-field bioradar," Apr. 2026. (Submitted)

J50. T. Hua, K. Li, W. Chen, **A. M. H. Wong**, S.-C. Tan and S.-Y. R. Hui, "Optimal three-coil coupler design under the bi-frequency tri-functional principle," Mar. 2026. (Submitted)

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. 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)

J47. X. He, S. Gao and **A. M. H. Wong**, "Broadband high aperture efficiency lens antenna based on achromatic Huygens metasurface," Mar 2025. (Submitted)

J46. S. Lei and **A. M. H. Wong**, "Experimental demonstration of intrinsic response time of time-varying digital metasurfaces," *IEEE Transactions on Antennas and Propagation*, Oct. 2026. (Accepted)

J45. 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," *IEEE Transactions on Antennas and Propagation*, Aug. 2026. doi:10.1109/TAP.2026.3732531 (Published Online)

J44. 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," *IEEE Transactions on Power Electronics*, vol. 41, no. 11, pp. 20691-20708, Jun. 2026. doi:10.1109/TPEL.2026.3703875

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*, vol. 25, pp. 10132-10144, Jan. 2026. doi:10.1109/TWC.2026.3650846

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*, vol. 41, no. 8, pp. 12410-12426, Dec. 2025. doi:10.1109/TPEL.2025.3648424

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

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

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

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

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

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

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

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

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

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 (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

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

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 (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

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

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

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

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

J25. Y. Cheng, K. A. Oyesina, B. Xue, D. Lei, **A. M. H. Wong** and S. Wang, "Directional dipole dice enabled by anisotropic chirality," *Proceedings of the National Academy of Science*, vol. 120, no. 25, e2301620120, Jun. 2023. doi: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 66 times)

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

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

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

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

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

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 **(Invited)** (Cited 252 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 ***(Invited)*** (Cited 285 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 (Cited 105 times)

ALEX M. H. WONG
Website: www.ee.cityu.edu.hk/~amhwong/
Email: alex.mh.wong@cityu.edu.hk
Tel: (852) 3442-9079

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

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 (Cited 427 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 (Cited 77 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

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

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 (Cited 291 times)

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 (Cited 156 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 ***(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

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 ***(R.W.P. King Award paper)*** (Cited 71 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

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 (Cited 86 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

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 (Cited 108 times)

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

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 (Cited 69 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

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)**

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.

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.

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.

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)**

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

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)**

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 15th 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)**

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

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)**

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.

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

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.

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.

ALEX M. H. WONG
Website: www.ee.cityu.edu.hk/~amhwong/
Email: alex.mh.wong@cityu.edu.hk
Tel: (852) 3442-9079

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

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)**

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)**

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

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," *2nd 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.

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

M72. S. Chen, W. Chen, K. Li, S.-Y. R. Hui and **A. M. H. Wong**, "Multi-layered frequency selective surface for magnetic field shielding in megahertz wireless power transfer systems," *The 27th IEEE (GZ/HK) AP/MTT Postgraduate Conference*, Guangzhou, China, Oct 2026. **(Best Paper Award)**

M71. Q. Li, B. Xue and **A. M. H. Wong**, "Electrically small reconfigurable Janus antenna with active near-field coupling control," *The 27th IEEE (GZ/HK) AP/MTT Postgraduate Conference*, Guangzhou, China, Oct 2026.

M70. S. Lei and **A. M. H. Wong**, "Investigation of the effect of intrinsic response time on time-varying metasurfaces," *The 27th IEEE (GZ/HK) AP/MTT Postgraduate Conference*, Guangzhou, China, Oct 2026.

M69. **A. M. H. Wong**, "Tailoring EM waves at will with discrete, reconfigurable and time-varying metasurfaces," *2026 International Symposium on Antennas and Propagation (ISAP 2026)*, Chengdu, China, Oct 2026. **(Invited)**

M68. **A. M. H. Wong**, "Tailoring EM waves at will with discrete, reconfigurable and time-varying metasurfaces," *The 15th International Symposium on Antennas, Propagation and EM Theory (ISAPE 2026)*, Haikou, China, Oct 2026. **(Invited)**

M67. **A. M. H. Wong**, "Reconfigurable metasurfaces and metasurface antennas for a smart world," *The 15th International Symposium on Antennas, Propagation and EM Theory (ISAPE 2026)*, Haikou, China, Oct 2026. **(Invited)**

M66. **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)**

M65. **A. M. H. Wong**, "Tailoring electromagnetic near-fields and far-fields with active directional sources," *Marina Forum on Metantennas & Beamsteering Antennas (MarFor 2026)*, Singapore, Mar. 2026. **(Invited)**

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**, "A self-adaptive metasurface for direction of arrival detection and normal reflection," *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.

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.

ALEX M. H. WONG
Website: www.ee.cityu.edu.hk/~amhwong/
Email: alex.mh.wong@cityu.edu.hk
Tel: (852) 3442-9079

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

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–華爲 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 15th 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," *第一届香港城市大学 – 华南理工大学 电信行业学术交流峰会 (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.

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.

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

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 22nd *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)

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.

ALEX M. H. WONG
Website: www.ee.cityu.edu.hk/~amhwong/
Email: alex.mh.wong@cityu.edu.hk
Tel: (852) 3442-9079

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

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.

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**)

ALEX M. H. WONG
Website: www.ee.cityu.edu.hk/~amhwong/
Email: alex.mh.wong@cityu.edu.hk
Tel: (852) 3442-9079

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

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. ***(3rd 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.

ALEX M. H. WONG
Website: www.ee.cityu.edu.hk/~amhwong/
Email: alex.mh.wong@cityu.edu.hk
Tel: (852) 3442-9079

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

TEACHING EXPERIENCE

- **5G Circuit Design (EE4107) , City Univ. of Hong Kong:**
  - ***Class Size:*** About 10-60 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)

ALEX M. H. WONG
Website: www.ee.cityu.edu.hk/~amhwong/
Email: alex.mh.wong@cityu.edu.hk
Tel: (852) 3442-9079

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

PROFESSIONAL ACTIVITIES

- **Academic Societal Participation:**
  - Senior Member, IEEE (AP, MTT and Phot. Societies)
  - Young Member of the Hong Kong Academy of Engineering (2026 – Present)

- **Service for Journals, International Conferences and Workshops:**
  - General Co-Chair:
    - Asia-Pacific Conference on Antennas and Propagation (APCAP 2027)
    - 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)
  - 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)

ALEX M. H. WONG
Website: www.ee.cityu.edu.hk/~amhwong/
Email: alex.mh.wong@cityu.edu.hk
Tel: (852) 3442-9079

Associate Professor,
Dept. of Electrical Engineering,
City University of Hong Kong,
Rm. P6510, Yeung Kin Man Academic Building,
83 Tat Chee Ave., Hong Kong SAR, China

- **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)

- **Active reviewer for academic journals, which include:**
  - *Nature Review Physics*
  - *Nature Photonics*
  - *Light: Science and Applications*
  - *Nature Communications*
  - *Science Advances*
  - *Optica*
  - *Advanced Materials*
  - *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*

- **Selected University Service:**
  - Member: Board of Graduate Studies (CityU HK, 2026 – Present)
  - Member: Student Discipline Committee (CityU HK, 2026 – Present)
  - Member: Sub-committee of Master Programmes, (CityU HK, College of Engineering, 2024 – Present)
  - Programme Leader: Taught Postgraduate (MSc) Programmes, (CityU HK Dept. of EE, 2023 – Present)
  - Associate Programme Leader: Microelectronics Engineering Major (CityU HK, Dept. of EE 2022 – 2023)
  - Co-ordinator: Departmental Undergraduate Research Fellowship program (CityU HK, Dept. of EE, 2019 – 2024)
  - Undergraduate Admission Tutor (CityU HK, Dept. of EE, 2018 – 2022)

- **Community Service:**
  - Young Member of the Hong Kong Academy of Engineering (2026 – Present)
  - Member of Expert Committee and Judge, Hong Kong and Macau Region, China Postgraduate Innovation & Practice Competitions (中國研究生電子設計競賽) (2026)
  - 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