香港城市大學
City University of Hong Kong

Department of Electrical Engineering
Presents a Faculty Candidate Seminar on

Universal Metasurface Antennas for 6G and Beyond Communications

by

Dr Gengbo Wu
Post-Doctoral Research Fellow
State Key Laboratory of Terahertz and Millimeter Waves
City University of Hong Kong, Hong Kong, China

Abstract

While the global commercialization of the fifth-generation (5G) wireless communications is gradually taking off, there is already significant interest in the next generation of wireless communications. 6G scheduled to be launched in 2030 will provide a Tbps data rate, microsecond latency, and almost unlimited bandwidth to the connectivity of numerous mobile and intelligent networks. Antennas and metasurfaces are ubiquitous and indispensable components to generate and manipulate electromagnetic (EM) waves. In this talk, Dr. Wu will share the development of the universal metasurface antenna that can control all fundamental properties of EM waves. The universal metasurface antenna can further facilitate information manipulation, which can fundamentally simplify the architecture of information transmitter systems. The unparalleled wave and information manipulation capabilities of the metasurface antenna will spark a surge of applications from next-generation wireless systems, cognitive sensing to imaging.

Biography

Dr. Gengbo Wu is currently a Postdoctoral Research Fellow with the State Key Laboratory of Terahertz and Millimeter Waves, City University of Hong Kong (CityU). He received his B.Eng. and M.Sc. degrees from the University of Electronic Science and Technology of China, Chengdu, China, in 2015 and 2018, respectively, and his Ph.D. degree from CityU, Hong Kong, in 2021. Dr. Wu's research interests include millimeter-wave/terahertz antennas, intelligent metasurfaces and metamaterials, and their applications in imaging and wireless communications. He has published more than 30 peer-reviewed papers in prestigious journals, including *Nature Electronics*, *Science Advances*, *IEEE Trans. Antennas Propag.* (T-AP), *IEEE Trans. Microw. Theory Tech.* (T-MTT), *IEEE Commun. Mag*., *Nanophotonics*, and *Advanced Optical Materials*. Dr. Wu is the recipient of the 2022 IEEE Antenna and Propagation Society Fellowship (APSF). He serves as an active reviewer for over ten journals and a committee member of IEEE Hong Kong AP/MTT Joint Chapter in 2022 and 2023.

Date	:	3 February 2023 (Friday)
Time	:	2:00pm – 3:00pm
Venue	:	LT-5, Yeung Kin Man Academic Building, City University of Hong Kong
Language	:	English

**** ALL ARE WELCOME ****

Enquiry: Prof. K M Luk, Department of Electrical Engineering, City University of Hong Kong.
Tel.: 3442 7838, Fax.: 3442 0562, Email: eehead@cityu.edu.hk