State Key Laboratory of Terahertz and Millimeter Waves
香港城市大學 City University of Hong Kong

IEEE (HK) Section AP/MTT

Seminar On

Microwave & Millimetre-Wave Devices and Antennas Enabled by 3D Printing & Liquid Metals

Professor Yi Wang
University of Birmingham, United Kingdom

Date : **10 February 2026 (Tuesday)**

Time : **11:00 am – 12:00 noon**

Venue : **Room 15-202, 15/F, State Key Laboratory of Terahertz and Millimeter Waves, Lau Ming Wai Academic Building, City University of Hong Kong**

Abstract

This talk covers two research thrusts exploring the use of 3D printing and gallium-based liquid metals for microwave and mm-wave devices and antennas. The first part examines the challenges and opportunities of 3D printing (also known as additive manufacturing) for microwave hardware, with a focus on space applications. I will then use several examples to demonstrate the capability of 'high-precision' 3D printing in producing mm-wave and even sub-terahertz waveguide antennas, feeders and filters operating up to 500 GHz.

The second part of the talk focuses on our recent work on liquid-metal-enabled reconfigurable circuits and antennas. Representative devices will be presented, including a high-performance dispersion-less phase shifter, a quad-polarization-reconfigurable array, and a reconfigurable metasurface.

Biography

Yi Wang is Chair Professor in Microwave Engineering at the University of Birmingham. He received his BSc and MSc degrees in Physics and his PhD degree in Electronic and Electrical Engineering. He leads the Emerging Device Technology (EDT) Research Lab at Birmingham, focusing on the application of novel materials and advanced manufacturing techniques to high-frequency devices spanning microwave to terahertz regimes. He also serves as Academic Lead of the Engineering Cleanroom and the Terahertz Measurement Facility at the University of Birmingham. Professor Wang has authored over 250 research publications and served as Technical Program Committee Chair of the 2021 European Microwave Conference. His current research interests include mm-wave and sub-THz filters, waveguide antenna arrays, new and advanced manufacturing techniques (e.g. 3D printing, micromachining) for microwave and mm-wave devices, and reconfigurable / programmable components.

***** ALL ARE WELCOME *****

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