



IEEE MTT-S Seminar

Time/Date: 2:00 – 4:00 PM, 4th August 2026

Venue: Conference Room 222, Ho Sin Hang Engineering Building, The Chinese University of Hong Kong

Talk 1: Mobile Communications: Past, Present, and Future

Manfred (Fred) Schindler

Abstract

The mobile communications revolution began with the emergence of cellular telephony in the early 1980s and has since transformed the way people connect, work, and live. This talk traces the remarkable evolution of mobile communications from the first-generation (1G) analogue systems to today's advanced 5G networks and the emerging vision for 6G. Along the way, it highlights the key technological innovations that have driven each generation, including advances in RF, microwave, semiconductor, and wireless system technologies. The talk concludes with a discussion of future trends, exploring how artificial intelligence and other emerging technologies may reshape the next era of mobile communications.

Speaker's Bio

Manfred (Fred) Schindler has dedicated his career to the development of microwave semiconductor technology, spanning the evolution of GaAs MMICs from early research to high-volume commercial products. He is currently an independent consultant, providing technical expertise, due diligence, and project management support to the RF and microwave industry. During his career, he has held senior technical and leadership positions at Anlotek, RFMD/Qorvo, IBM Microelectronics, ATN Microwave, and Raytheon. He is the inventor of 11 patents and has authored numerous technical publications and magazine articles.

Dr Schindler has been an active IEEE volunteer for more than 30 years, serving as IEEE Vice President for Technical Activities (2024), IEEE Division IV Director (2021–2022), Chair of the IEEE Conferences Committee (2015–2018), and President of the IEEE Microwave Theory and Technology Society (MTT-S) in 2003. He is an IEEE Life Fellow, an MTT-S Honorary Life Member, and recipient of the IEEE MTT-S Distinguished Service Award.



Talk 2: From Physics to Intelligence: AI-Driven Design of Next-Generation RF Systems

Anding Zhu

Abstract

The design of RF and microwave systems has traditionally been grounded in physics-based models, analytical techniques, and engineering intuition. While this approach has enabled decades of innovation, the increasing complexity of modern wireless systems is pushing conventional design methodologies to their limits. With the emerging role of machine learning and artificial intelligence, AI-driven approaches are enabling new ways to explore design spaces, accelerate development, and uncover solutions beyond traditional intuition. By combining physics-based understanding with data-driven intelligence, a new generation of hybrid design methodologies is emerging. These approaches open the door to AI-assisted and eventually self-optimizing RF systems, where devices, circuits, and algorithms are co-designed in a unified framework. This talk will discuss recent advances, key challenges, and future opportunities in this rapidly evolving field, highlighting how AI may fundamentally reshape the way RF systems are designed and implemented.

Speaker's Bio

Anding Zhu received the Ph.D. degree in electronic engineering from University College Dublin (UCD), Ireland, in 2004 and was a Full Professor in the School of Electrical and Electronic Engineering at UCD. He joined the Chinese University of Hong Kong in August 2026. His research interests include high-frequency nonlinear system modelling, device characterization, high-efficiency RF power amplifier design, and nonlinear system identification algorithms. He has published more than 200 peer-reviewed journal and conference papers.

Prof. Zhu is an IEEE Fellow and currently serves as the President of the IEEE Microwave Theory and Technology Society (MTT-S).

