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ABSTRACT:

Enablers for 6G: From Antennas to Large surfaces

Future wireless networks are expected to be more than allowing people, mobile devices, and objects to communicate with each other. The sixth generation (6G) of mobile networks are envisioned to include high data rate applications and ultra-massive, connected things. This also includes bio and nano-internet of things (IoT) tele-operated driving, unmanned mobility, haptic communications, unmanned aerial vehicles, and many more. Given the size of nano-sensors, THz frequency is proposed to do various sensing activities at this scale. However, it will be ideal to use the same radio frequency for communications as well. Furthermore, THz is also proposed as an enabler of extremely high data rate applications in 6G communications. The talk will be focused on Terahertz antenna design, Reconfigurable Intelligent Surfaces (RISs) and its role for joint communication and sensing feature of 6G.