**Big Data Technologies for 6G – From Sensing to Digital Twin**

The sixth generation (6G) wireless communications systems will serve as a major enabler for the next digital revolution - the next generation of Internet in which the dynamic physical and virtual world will be inextricably intertwined.

In this talk, we will outline a number of major beyond 5G (B5G) 6G innovations in big date related technologies, and the challenges to develop them. We will present the advancement we are making at the University of Technology Sydney as well at the New South Wales Connectivity Innovation Network. These include integrated communications and sensing, environmental monitoring, AI and digital twin.

**Speaker - Distinguished Professor Y. Jay Guo**

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Dr Y. Jay Guo is a Distinguished Professor and the Director of Global Big Data Technologies Centre (GBDTC) at the University of Technology Sydney (UTS), and the Founding Technical Director of New South Wales Connectivity Innovation Network (CIN), Australia. Prior to joining UTS in 2014, he served as a Research Director in CSIRO for over nine years. Before joining CSIRO, he held various senior technology leadership positions in Fujitsu, Siemens and NEC in the U.K. His research interest includes B5G, 6G, mm-wave and THz communications and sensing systems as well as big data technologies such as AI and digital twin.

Prof Guo is currently the representative of the Australian Academy of Engineering and Technology (ATSE) in the Standards Australia IoT and Digital Twin Committee. He has published five books and over 600 research papers including over 300 transaction papers in top tier journals, and he holds 26 patents.

Prof Guo is a Fellow of the Australian Academy of Engineering and Technology, a Fellow of IEEE and a Fellow of IET. He has won a number of most prestigious Australian Engineering Excellence Awards and CSIRO Chairman’s Medal. He was named one of the most influential engineers in Australia in 2014 and 2015, and one of the top researchers across all fields in Australia in 2020 and 2021, respectively. He and his students have won numerous international best paper awards.