

## SEMINAR ANNOUNCEMENT

### DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

Faculty of Engineering

Website: <https://www.eng.nus.edu.sg/ece/>

**Area: Communications & Networks**

**Host: Prof Zhang Rui**

**Jointly Organized By:**

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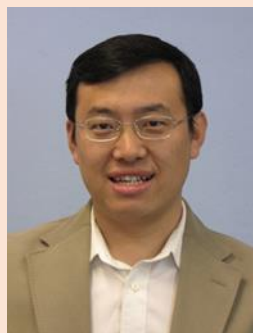
**Communications Society Singapore Chapter**

<b>TOPIC</b>	:	<b>Cybertwin – A pathway to 6G</b>
<b>SPEAKER</b>	:	<b>Prof Wei Zhang The University of New South Wales, Australia</b>
<b>DATE</b>	:	<b>10 January 2020, Friday</b>
<b>TIME</b>	:	<b>4.30pm to 5.30pm</b>
<b>VENUE</b>	:	<b>E5-03-21, Engineering Block E5, Faculty of Engineering, NUS</b>

### ABSTRACT

With the fast development of Internet-of-Everything and its applications, the ever increasing mobile Internet traffic and services bring unprecedented challenges, including scalability, mobility, availability, and security, which cannot be addressed by the current clean-slate network architecture. In this talk, a cybertwin based next generation network architecture is proposed to accommodate the evolution from end-to-end connection to cloud-to-end connection in the future network. As a digital representation of humans or things in the virtual cyberspace, cybertwin serves in multiple capacities, such as communications assistant, network behavior logger, and digital asset owner. We advocate a new cloud network operating system which can work in a distributed way through a real-time multi-agent trading platform to allocate 3C (computing, caching, communication) resources. We also redesign the radio access network architecture, which fully decoupled the control BSs and data BSs and entirely separate uplink and downlink, which can enhance the spectrum utilization, reduce the network energy consumption and improve the quality of user experience.

### BIOGRAPHY



Wei Zhang is a Professor at University of New South Wales, Sydney, Australia. His current research interests include UAV communications, space information networks, and 6G. He is the Editor-in-Chief of Journal of Communications and Information Networks (JCIN) and Area Editor of IEEE Trans. Wireless Communications. He also serves as Chair for IEEE Wireless Communications Technical Committee. He is a member of Board of Governors of IEEE Communications Society. He is an IEEE Fellow.