

2024 IEEE 24th International **Conference on Communication Technology**

October 18-20, 2024

Chengdu, China

Tutorial 1

When Non-Territorial Networks Meet Digital Twins: Challenges, Recent Advances, and Future Research Trends



Speaker Information



Tony Q.S. Quek, SUTD, Singapore

Tony Q.S. Quek (S'98-M'08-SM'12-F'18) received the B.E. and M.E. degrees in electrical and electronics engineering from the Tokyo Institute of Technology in 1998 and 2000, respectively, and the Ph.D. degree in electrical engineering and computer science from the Massachusetts Institute of Technology in 2008. Currently, he is the Cheng Tsang Man Chair Professor with Singapore University of Technology and Design (SUTD) and ST Engineering Distinguished Professor. He also serves as the Director of the Future Communications R\&D Programme, the Head of ISTD Pillar, and the Deputy Director of the SUTD-ZJU IDEA. His current research topics include wireless communications and networking, network intelligence, non-terrestrial networks, open radio access network, and 6G.

Presenter 1

Shengyu Zhang, SUTD, Singapore

Presentation Title

DT-asisted Predictive Radio Resource Allocation in NTNs

Shengyu Zhang (Member, IEEE) received the B. Eng. and M. Eng. degrees in communication engineering from Southeast University, Nanjing, China, in 2016 and 2019, respectively, and the Ph.D. degree from the University of Hong Kong, Hong Kong, China, in 2023. He is currently a Post-Doctoral Research Fellow with Information Systems Technology and Design Pillar at the Singapore University of Technology and Design. His research interests include networking, communication and deep learning applications.

Presenter 2

Feng Wang, SUTD, Singapore

Presentation Title

DT-modeled NTN mobility management

Feng Wang (Member, IEEE) received the B.S. and Ph.D. degrees from University of Electronic Science and Technology of China (UESTC) in 2016 and 2022, respectively. He is currently a Research Fellow with Information Systems Technology and Design Pillar at the Singapore University of Technology and Design (SUTD), where he was an International Research Visitor from September 2021 to September 2022. His research interests include non-terrestrial networking and satellite mobility management. Feng Wang (Member, IEEE) received the B.S. and Ph.D. degrees from University of Electronic Science and Technology of China (UESTC) in 2016 and 2022, respectively. He is currently a Research Fellow with Information Systems Technology and Design Pillar at the Singapore University of Technology and Design (SUTD), where he was an International Research Visitor from September 2021 to September 2022. His research interests include non-terrestrial networking and satellite mobility management.

Presenter 3 **FILLING**

Longyu Zhou, SUTD, Singapore

Presentation Title

DT for NTNs: Use Cases and Opportunities

Longyu Zhou received the Ph.D degree with a MD-PhD program in the School of Information and Communication Engineering from University of Electronic Science and Technology of China (UESTC) in 2023. He is currently a Research Fellow working in Information Systems Technology and Design Pillar at Singapore University of Technology and Design. He also worked in Embedded Systems (ES) group, Delft University of Technology, the Netherlands, as a visiting student.





























