



Department of
Computer Science

香港城市大學
City University of Hong Kong

COMPUTER SCIENCE COLLOQUIUM

IEEE VTS Distinguished Lecture: A Decoupled Radio Access Networks Architecture for 6G: Concepts, Methods and Directions

SPEAKER Professor **ZHOU Haibo**

Professor
School of Electronic Science and
Engineering, Nanjing University, China

DATE 9 Oct, 2023 (Mon)

TIME 3:00 PM - 4:30 PM

VENUE LI-5401, 5th Floor, Li Dak Sum Yip Yio Chin Academic Building (AC2), City University of Hong Kong, 83 Tat Chee Avenue, Kowloon Tong, Hong Kong

ABSTRACT

The next-generation mobile communications network is envisioned to face both significant user-side paradigm shifts and network-side challenges, including spectrum resource scarcity, increasing demand for high-quality network service provision, and proliferating network operation costs. In this talk, the speaker will first provide insights into the evolution of RAN by investigating the existing paradigms and future trends and then introduce a disruptive fully-decoupled radio access network (FD-RAN) architecture for 6G, which aligns well with the trends of integrating existing paradigms and new features such as physical decoupling of uplink and downlink base stations. With such a physical split of BS functionalities, the speaker will demonstrate how to naturally implement advanced cooperative transmission techniques such as coordinated multipoint (CoMP), receiver diversity, and hybrid duplex resource allocation and how to leverage the proposed FD-RAN architecture to enhance the spectrum utilization, reduce the network energy consumption, and improve the quality of user experience in 6G.

BIOGRAPHY

Haibo Zhou is currently a Full Professor with the School of Electronic Science and Engineering, Nanjing University, Nanjing, China. He received the Ph.D. degree in information and communication engineering from Shanghai Jiao Tong University, Shanghai, China, in 2014. From 2014 to 2017, he was a Postdoctoral Fellow with the Broadband Communications Research Group, Department of Electrical and Computer Engineering, University of Waterloo. He has published 5 Books, 3 Book Chapters, and over 100 high-level journal papers, including 8 ESI Highly Cited Papers. He was a recipient of 8 best journal and conference paper awards, including IEEE GLOBECOM'20, VTC'2020-Fall, and the Norbert Wiener Review Award of IEEE/CAA Journal of Automatica Sinica in 2020 etc. He was a recipient of IEEE ComSoc Asia-Pacific Outstanding Young Researcher Award (2019), Chinese overseas young high-level talents (2019), Clarivate Highly Cited Researcher, and 2023-2025 IEEE VTS Distinguished Lecturer. He served as Track/Symposium Co-Chair for IEEE/CIC ICC 2019, IEEE VTC-Fall 2020, IEEE VTC-Fall 2021, WCSP 2022, IEEE GLOBECOM 2022, IEEE ICC 2024. He is currently an Associate Editor of IEEE TWC, IEEE IoT Journal, IEEE Network Magazine. His research interests include resource management and protocol design in vehicular ad hoc networks, B5G/6G networks and space-air-ground integrated networks.

All are welcome!



In case of questions, please contact Professor Michael Fang at my.fang@cityu.edu.hk, or visit the CS Departmental Seminar Web at <https://www.cs.cityu.edu.hk/events/cs-seminars/recent-cs-colloquiums>.

