



**THE CHINESE UNIVERSITY OF HONG KONG**  
Department of Information Engineering  
*Faculty Seminar*

**Optimization in Mobile Communication Systems**  
by  
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**Date : 7<sup>th</sup> November, 2019 (Thursday)**  
**Time : 11:00am – 12:00pm**  
**Venue : Room 801, Ho Sin Hang Engineering Building**  
**The Chinese University of Hong Kong**

Abstract

Optimization has been successfully employed in the design of modern communication and networking systems. In this talk, I will give a brief overview of our recent work on wireless network optimization. As one example, I will introduce sparse-learning based optimal matrix factorization for blind signal detection in massive MIMO systems. In particular, we formulate the blind signal detection problem as a sparse dictionary learning problem, which is tackled by approximate message passing and expectation-maximization. In the second example, I will introduce the use of deep reinforcement learning in mixed integer programming problems, with application in task offloading in wireless-powered mobile edge computing systems.

This talk will also include a review of my teaching, research, and services in the past few years. I will also discuss some of the future research plans.

Biography

Angela Yingjun Zhang is an Associate Professor at Department of Information Engineering, The Chinese University of Hong Kong. She received her PhD degree from Department of Electrical and Electronic Engineering, The Hong Kong University of Science and Technology in 2004. Her research interests include optimization and learning in wireless communications systems and smart power systems. She has served as the Chair of the Executive Editor Committee of the IEEE Transactions on Wireless Communications, the Founding Chair of IEEE ComSoc Technical Committee Smart Grid Communications, and the Chair of IEEE ComSoc Emerging Technologies Initiatives on Smart Grid Communications. She had served many years on the Editorial Boards of the IEEE Transactions on Wireless Communications, IEEE Transactions on Communications, IEEE Journal on Selected Areas in Communications, IEEE Communications Magazine, IEEE IoT Journal, and Security and Communications Networks (Wiley). She has been on the organizing committee of major IEEE ComSoc conferences, and is now a Member of the Steering Committee of IEEE SmartGridComm Conference. She was the co-recipient of the 2014 IEEE ComSoc APB Outstanding Paper Award, the 2013 IEEE SmartgridComm Best Paper Award, and the 2011 IEEE Marconi Prize Paper Award on Wireless Communications. She was the recipient of the Young Researcher Award from the Chinese University of Hong Kong in 2011. As the only winner from engineering science, she has won the Hong Kong Young Scientist Award 2006, conferred by the Hong Kong Institution of Science. Dr. Zhang is a Fellow of IET and a Distinguished Lecturer of IEEE ComSoc.

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