

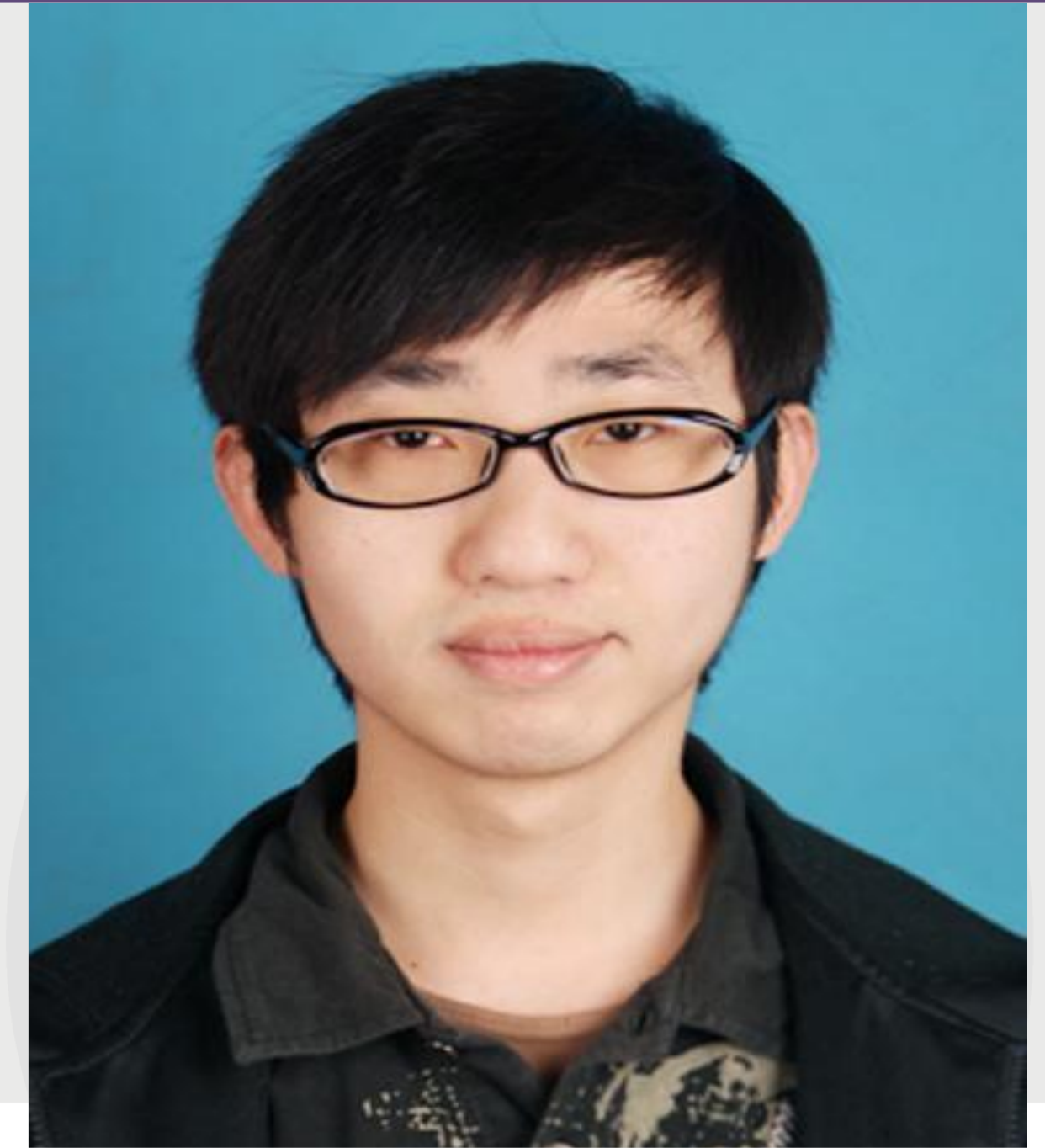
How to get scientific ideas from industrial project -- Complete and Systematic Base Station Antenna Design from 4G to 5G

工程项目与科研的结合 -- 体系化基站天线设计，从4G到5G

SPEAKER: Dr Can Ding

TIME: 2019/01/08 [Tue] 3:00 – 5:00 PM

LOCATION: Rohm Building, Room 10-208



ABSTRACT: This talk will first summarize the major concerns and main challenges of 3G/4G base station antenna design. Some key technologies to solve these issues will be presented with a glance of insights. Based on the understanding of 3G/4G techniques, new methods are proposed for 5G cellular systems. In specific, the electromagnetic fundamentals that govern the performance characteristics of dual-polarized tightly-coupled cross-dipoles that are widely used in cellular base station applications are investigated. The mutual coupling effects and their impact on standard performance indices are stressed. Links between the physical dimensions of the components of this model and key radiation characteristics, including directivity, half-power-beamwidth (HPBW), and cross polarization discrimination (XPD) levels, are established. The model guides the introduction and optimization of a cross-dipole structure that exhibits excellent performance. A general and optimal impedance matching method is presented by adding more radiators to get more performance. During this talk, the presenter will share some tips of producing scientific papers from industrial projects.

BIOGRAPHY: Dr Can Ding obtained a Bachelor Degree in Microelectronics from Xidian University, and a PhD Degree from Macquarie University in antennas and microwave circuits. Since May 2015, Can has been working as a Postdoctoral Research Fellow at GBDTC in the University of Technology Sydney (UTS) on advanced base station antenna technologies. He is now a Lecturer with GBDTC in UTS. Thanks to his technical contributions, his research has led to two major industrial research funds from Tongyu Communications Pty Ltd. Despite the industrial nature of the projects he has been working on, Can has authored and co-authored over 50 top-tier journal and international conference papers, one book and he holds 3 international patents and 1 Chinese patent. He is the recipient of several antenna conference awards, including APS, ISAP, AMS, etc. He served as the chair of a session in APS 2017, and as the committee secretary of EM-MTF in 2017 and 2018. He is also the reviewer for a number of top-tier journals, including IEEE Transactions on Industrial Electronics, IEEE Transactions on Antenna and Propagation, IEEE Transactions on Microwave Theory and Technology, IEEE Antenna and Propagation Letter, etc.

