

Keynote Speaking #2

Recent Advances in Vehicular Communications and Networks in China

-The development of Millimeter Radio for Shanghai Maglev Communications System

Speaker: Prof. Guoxin Zheng, Shanghai University, China



Highlight: At first, the speaking will present an overview and recent advances in vehicular communications and networks and their applications in China. Next, as an example, Prof. Zheng will present the development of the millimeter radio designed for Shanghai Maglev Communications systems. The characteristics of millimeter propagation at 38GHz in tunnels have been studied, upon which the radio coverage of the millimeter radio is accurately drawn out. Based on experiments conducted in subway tunnels and simulations using ray tracing method, the field powers of millimeter radio are studied in the context of the type, angle, location and height of the antenna, the diameter of tunnels, and the roughness, permittivity and conductivity of wall materials. Interesting enough, in certain scenarios the propagations of millimeter wave over straight or curved tunnels are observed to be more efficient than that in the free space. Finally, Prof. Zheng will address the collaboration opportunities between Universities from China and USA on this promising area through project and scholars and students visiting and exchange programs.

Mr. Guoxin Zheng is the Professor and Deputy Dean of the School of Communication and Information Engineering, Shanghai University, Shanghai China. His research interest includes ultra wideband, millimeter waves and propagation, wireless LAN and vehicular networks.