

Title: Introduction to 5G NR

Abstract: 5G is poised to transform many industries and the society. But what is 5G? How is it different from 4G? This talk is to introduce the Radio Access Network (RAN) of 5G, also known as New Radio (NR). The talk will give an overview of 5G NR, followed by the details of various technical aspects specified in the 3GPP standards, including initial access, control channel, data channel, beam management and bandwidth parts. The emphasis will be on the rationales behind the technical aspects.

Bio:

Liangping Ma is Sr. Staff Engineer with Qualcomm, working on 3GPP 5G NR and multimedia systems. He was with InterDigital from 2009 to 2019, where he worked on 3GPP RAN, Quality of Experience (QoE) driven video communication, and machine learning. Prior to 2009, he was with San Diego Research Center Inc. and Argon ST (acquired by Boeing), where he led the development of a modem for wireless sensor networks. He is the co-inventor of more than 100 granted or pending patents. He has been teaching a course on 5G NR at UC San Diego Extension since 2019. He received his PhD in electrical engineering from University of Delaware in 2004 and his B.S. in physics from Wuhan University, China, in 1998.

