

## Sparse Code Multiple Access (SCMA) for Future Massive Machine Communications (mMTC)



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**Abstract:** In future mMTC, the number of connected devices inevitably exceeds the number of available resource-slots, given the ever-increasing demand, which results in an over-loaded or a generalized rank-deficient condition. In this case, the system's performance is highly dependent on the multiuser interference management. Sparse code multiple access (SCMA) has emerged as a promising candidate solution to handle the over-loaded conditions, and fulfil the requirement of massive connectivity. In this talk, we will look at fundamentals of SCMA and some of our recent highlights and achievements in this area.

**Bio:** Pei Xiao is a professor of Wireless Communications at the Institute for Communication Systems, home of 5G Innovation Centre (5GIC) at the University of Surrey. He is the technical manager of 5GIC, leading the research team in the new physical layer work area, and coordinating/supervising research activities across all the work areas within 5GIC ([www.surrey.ac.uk/5gic/research](http://www.surrey.ac.uk/5gic/research)). Prior to this, he worked at Newcastle University and Queen's University Belfast. He also held positions at Nokia Networks in Finland. He has published extensively in the fields of communication theory, RF and antenna design as well as signal processing for wireless communications.

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