Wireless service providers collect massive amounts of data from mobile users who access their networks. Much of this data is used only for advertising purposes today. In the first two parts of the talk, we will discuss the possible use of this data for network control and network management purposes. Specifically, we will consider two examples of network control and management tasks, and show how optimization and statistical inference techniques can be used to improve the performance of wireless networks. In the third part of the talk, we will discuss privacy issues in sharing even anonymized network data for research purposes. We will show how the network data can be correlated with publicly available data from other sources such as social networks to possibly deanonymize user information.

R. Srikant is the Fredric G. and Elizabeth H. Nearing Endowed Professor of Electrical and Computer Engineering and a Professor in the Coordinated Science Lab, both at the University of Illinois at Urbana-Champaign. His research interests include communication networks, machine learning, and applied probability. He is currently the Editor-in-Chief of the IEEE/ACM Transactions on Networking. He is a winner of several Best Paper awards, and is a recipient of the IEEE INFOCOM Achievement Award.