

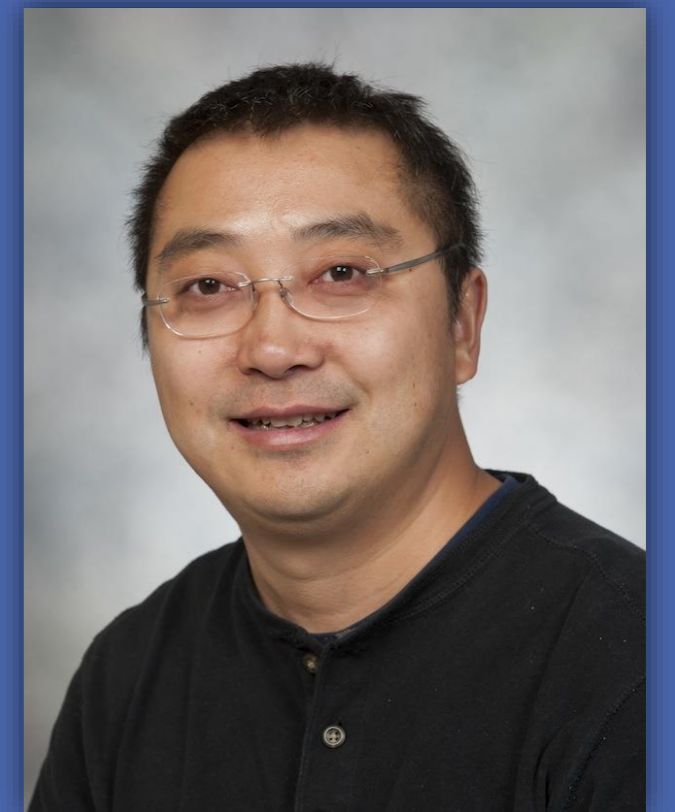
BASE STATIONS ARE INTERESTING COMPUTER SYSTEMS

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ABSTRACT: Large-scale MIMO systems, motivated by the massive MIMO theory, are considered a key candidate technology for 5G cellular data networks. In the past few years, we have built two generations of prototypes for many-antenna MU-MIMO base stations, called Argos, using off-the-shelf 2.4/5 GHz SDR radios. In building them, we aim to answer the question: how can the base station scale up to thousands of antennas even with today's computational power? In this talk, I will share systems lessons we have learned toward answering this question. More information about Argos can be found at <http://argos.rice.edu>

BIOGRAPHY: Lin Zhong is currently an Associate Professor with Rice University. He received his B.S and M.S. from Tsinghua University and Ph.D. from Princeton University. He has been with Rice University since September 2005. At Rice, he leads the Efficient Computing Group to make computing, communication, and interfacing more efficient and effective. He and his students received the best paper awards from ACM MobileHCI 2007, IEEE PerCom 2009, and ACM MobiSys 2011, 2013 and 2014, and ACM ASPLOS 2014. He is a recipient of the NSF CAREER Award, the Duncan Award from Rice University, and the RockStar Award from ACM SIGMOBILE. More information about his research can be found at <http://www.recg.org>.