Speaker: Yazhen Wang, University of Wisconsin–Madison

Title: Quantum Computation and Statistics

Abstract:
Quantum computation and quantum information are of great current interest in computer science, physics, engineering, mathematics and statistics. They will likely lead to a new wave of technological innovations in communication, computation and cryptography. As the theory of quantum physics is fundamentally stochastic, randomness and uncertainty are deeply rooted in quantum computation and quantum information. Thus statistics can play an important role in quantum computation, which in turn may offer great potential to revolutionize statistical computing and inferences. This talk will first give a brief introduction on quantum computation and then present my recent work on quantum tomography via compressed sensing as well as statistical analysis of quantum annealing for large scale quantum computing data.