When: **Friday 12:40 – 13:40**
Where: **ETB 1020**

Speaker: **Xiaoning Qian**

Associate Professor
Department of Electrical & Computer Engineering
Texas A&M University

Title: **Learning Complex Systems under Data Scarcity**

Date: **1-25-2019**

Abstract: With the availability of diverse types of "big" data as well as the recent successes of "deep" learning, data-driven research has been believed by many to make new breakthroughs in advancing sciences and maximizing health and economy outcomes. On the other hand, since the Human Genome Project started from the last century, the main concern of omics-data-driven research as an alternative to traditional hypothesis-driven research in biomedicine has been the reproducibility of the scientific findings for the past twenty years. When translating "big" data into reproducible scientific knowledge, especially when studying complex systems, such as life and disease, the question is whether we are in the data rich or scarce regime. I will give an overview of the recent and ongoing projects with my students on developing data integration, transfer learning, and experimental design to overcome data scarcity when studying complex systems.

Bio: Xiaoning Qian is an Associate Professor with the Department of Electrical & Computer Engineering, Texas A&M University, College Station, TX, USA. He is affiliated with the TEES-AgriLife Center for Bioinformatics and Genomic Systems Engineering and the Center for Translational Environmental Health Research at Texas A&M. He received the Ph.D. degree in electrical engineering from Yale University, New Haven, CT, USA and B.S. degrees in electronic engineering from Shanghai Jiao-Tong University, China. He works on computational network biology, genomic signal processing, and biomedical signal and image analysis.