ELECTRICAL & COMPUTER ENGINEERING BIO-SEMINAR Spring 2018

When: **Friday 13:50 – 14:50**
Where: **ETB 1035**

Speaker: **Siamak Zamani Dadaneh**

Graduate student
Department of Electrical & Computer Engineering
Texas A&M University

Title: **Bayesian Nonparametric Methods for Analyzing Next-Generation Sequencing Data**

Date: **2-9-2018**

Abstract: There has been significant recent interest in analyzing RNA sequencing (RNA-Seq) count data for studying living systems. It is challenging to model RNA-Seq data, not only because it is high-dimensional with small sample size, but also because the sequencing counts are nonnegative, skewed, having large dynamical ranges, and highly over-dispersed. I present a Bayesian nonparametric framework, with primary focus on differential expression analysis of RNA-seq data, which removes sophisticated *ad hoc* pre-processing steps commonly required in existing algorithms. I also share more recent works on the extension of this method to experimental setups with complex confounding factors.

Biography: Siamak Zamani is a PhD student 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 & Genomic Systems Engineering at Texas A&M. He works on computational biology and genomic signal processing.