Statistics Seminar

Department of Mathematical Sciences

DATE:	Thursday, March 25, 2021
TIME:	1:15pm – 2:15pm
LOCATION:	Zoom meeting
SPEAKER:	Xiaoke Qin, Binghamton University
TITLE:	Zero-inflated generalized Dirichlet multinomial regression model for microbiome compositional data analysis

Abstract

There is hightened interest in quantifying abundances of microbial taxa and linking it to human diseases and traits. In the paper 'Zero-inflated generalized Dirichlet multinomial regression model for microbiome compositional data analysis', the authors, Zheng-Zheng Tang and Guanhua Chen, propose the new zero-inflated generalized Dirichlet multinomial(ZIGDM) distribution in order to model multivariate taxon counts. The exiting models are limited in handling excessive zero observations and flexibly accommodating complex correlation structures among taxa. Based on ZIGDM distribution, they propose a ZIGDM regression model to overcome these limitations and link microbial abundances to covariates.

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Last update: **2021/03/17 13:05**