

**Fusing Data Depth with Complex
Networks: Community Detection with
Prior Information**

**Yahui Tian, PhD
Senior Statistician
Health Informatics and Analytics
Boehringer-Ingelheim Pharmaceuticals, Inc.**

ABSTRACT

We propose a new nonparametric supervised algorithm for detecting multiple communities in complex networks using Bayes classifier. The key idea behind the new clustering method is the notion of robust and data-driven data depth methodology that still remains new and unexplored in network sciences. The proposed new DD(G)-method is inherently geometric and allows to simultaneously account for network communities and outliers. We illustrate utility of the new approach using the benchmark political blogs data.

**12:00 Noon, Tuesday, October 15, 2019
47 College Street, Room 106B
11:45 AM - Lunch served outside Room 106B**

