

DEPARTMENT OF STATISTICS

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Adjusting the Benjamini-Hochberg method for controlling the false discovery rate in knockoff-assisted variable selection

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11:45 AM

Zoom Meeting: Meeting ID: 963 9005 8784
Password: 606979

<https://rutgers.zoom.us/j/96390058784?pwd=c3VGOFIvYUxRanV5Tk5kS2R0dTVsQT09>

Light refreshments will be served

Abstract: The knockoff-based multiple testing setup of Barber and Candès (2015) for variable selection in multiple regression where sample size is as large as the number of explanatory variables is considered. The method of Benjamini and Hochberg (1995) based on ordinary least squares estimates of the regression coefficients is adjusted to this setup, transforming it to a valid p -value based false discovery rate controlling method not relying on any specific correlation structure of the explanatory variables. Simulations and real data applications show that our proposed method that is agnostic to π_0 , the proportion of unimportant explanatory variables, and a data-adaptive version of it that uses an estimate of π_0 are powerful competitors of the false discovery rate controlling method in Barber and Candès (2015). This is a joint work with Dr Sanat K. Sarkar.

Bio: Dr. Cheng Yong Tang is Professor and the Cyrus C.K. Curtis Senior Research Fellow in the Department of Statistics, Operations, and Data Science in the Fox School of Business of Temple University. Dr. Tang's research interests include empirical likelihood, high-dimensional data analysis, longitudinal and dependent data analysis, and financial statistics.

