

7<sup>th</sup> International Conference on

# BIostatistics and Bioinformatics

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# Big Data Analytics & Data Mining

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## Xiaofeng Shao

University of Illinois at Urbana-Champaign, USA

### Martingale difference divergence and its applications to contemporary statistics

Martingale difference divergence is a metric that quantifies the conditional mean dependence of a random vector  $Y$  given another random vector  $X$  and it can be viewed as an extension of distance covariance, which characterizes the dependence and has recently much attention in the literature. We shall present applications of martingale difference divergence and its variant to several contemporary statistical problems: high dimensional variable screening, dependence testing and dimension reduction for multivariate time series.

### Biography

Xiaofeng Shao is a professor of Statistics and PhD program director at the Department of Statistics, the University of Illinois at Urbana-Champaign. His main research interests include time series analysis, high dimensional statistics, resampling methods, spatial statistics and functional data analysis. He is a recipient of The Tjalling C Koopmans Econometric Theory Prize in 2009, Econometric Theory Multa Scripist Award in 2011 and was named as UIUC LAS Centennial Scholar in 2013. He is also an associate editor for the Journal of the American Statistical Association, Journal of Multivariate Analysis and Journal of Time Series Analysis.

[xshao@illinois.edu](mailto:xshao@illinois.edu)

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