Thanks to the advancement of modern technology in acquiring data, massive data with diverse features and big volume are becoming more accessible than ever. The impact of big data is significant. While the abundant volume of data presents great opportunities for researchers to extract useful information for new knowledge gain and sensible decision making, big data present great challenges. A very important, sometimes overlooked challenge is the quality and provenance of the data. Big data are not automatically useful; big data are often raw and involve considerable noise.

Typically, the challenges presented by noisy data with measurement error, missing observations and high dimensionality are particularly intriguing. Noisy data with these features arise ubiquitously from various fields including health sciences, epidemiological studies, environmental studies, survey research, economics, and so on. In this talk, I will discuss the issues induced from noisy data and some methods of handling such data.

PROFESSOR GRACE YI received her PhD in statistics in 2000 from the University of Toronto, and then joined the University of Waterloo as a postdoctoral fellow (2000-2001). She was assistant professor (2001-2004), associate professor (2004-2010), and now is full professor (2010-present). Professor Yi is the 2010 winner of the CRM-SSC Prize, an honor awarded in recognition of a statistical scientist’s professional accomplishments in research during the first 15 years after having received a doctorate. She was a recipient of the prestigious University Faculty Award granted by the Natural Sciences and Engineering Research Council of Canada (NSERC). She currently serves as the Editor-in-Chief for The Canadian Journal of Statistics and has been an associate editor for The Journal of Applied Probability and Statistics, STAT, Statistics in Biosciences, Biostatistics and Epidemiology, and the Journal of Royal Statistical Society, Series C. She is a member of the American Statistical Association, the Statistical Society of Canada, the Eastern North American Region of the Biometrics Society, and the International Chinese Statistical Association.

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