

Associate Professor Teruko Takada, Graduate School of Business



Associate Professor Takada specializes in computational finance. Using statistics and information technologies, she studies investor behavior in financial markets in a data-driven manner. She is particularly interested in the mechanisms of sudden large changes caused by human collective behavior such as financial bubbles, and investigating emergent patterns observed before and after such crises.

Associate Professor Takada believes that it is important to understand basic facts shown by data before adopting simulation-based approaches, which have been primarily used in previous literature. In the PhD program at University of Illinois, she studied nonparametric statistics, which does not make any assumptions about the probability distributions of the variables being assessed, and developed several analytical

techniques. By applying them to large-scale and high frequency stock market numerical data (whose total size is approximately 300 TB!) as well as text data from the internet, newspapers, and so on, she observes true investor behavior, and discovers useful facts for predicting and regulating collective motion generating sudden large changes.

Financial markets have an attractive characteristic for analyzing social collective behavior in that it is composed of a huge number of people and all the transactions have been electronically recorded. Useful findings in financial markets could also open up possibilities for applying it to other fields, such as crowd behavior during disasters. Energetically engaging in her research, it is Associate Professor Takada's goal to produce research results that help solve problems in our society.

Another side

Associate Professor Takada says it's hard to find time for herself due to her busy schedule. When she does have some chance to relax, she spends time with her family enjoying being in nature and doing sports, such as hiking, mountain climbing, cycling, tennis, and swimming. Recently, she has been visiting castles more frequently, reflecting her sons' interest in Japanese history of the Sengoku period.