近年のインターネットの普及をはじめとする情報通信技術の急速な発展は，金融・経済分野においてグローバル化をもたらし，さまざまな国の金融・経済現象が世界各国に及ぼす影響は予想以上に大きくなっている．実際，世界的金融危機は記憶に新しい．いまや世界経済は従来にないスピードで構造変化が起きており，不確実性は増大している．

新たな危機を回避するためには，適切な時系列モデルを構成し，大量で混在したデータから将来の変動の予測に重要な情報を抽出することが必要不可欠である．本講義では，時系列解析の入門から始め，最近のトピックを中心に時系列解析の実用例を紹介する．

2013

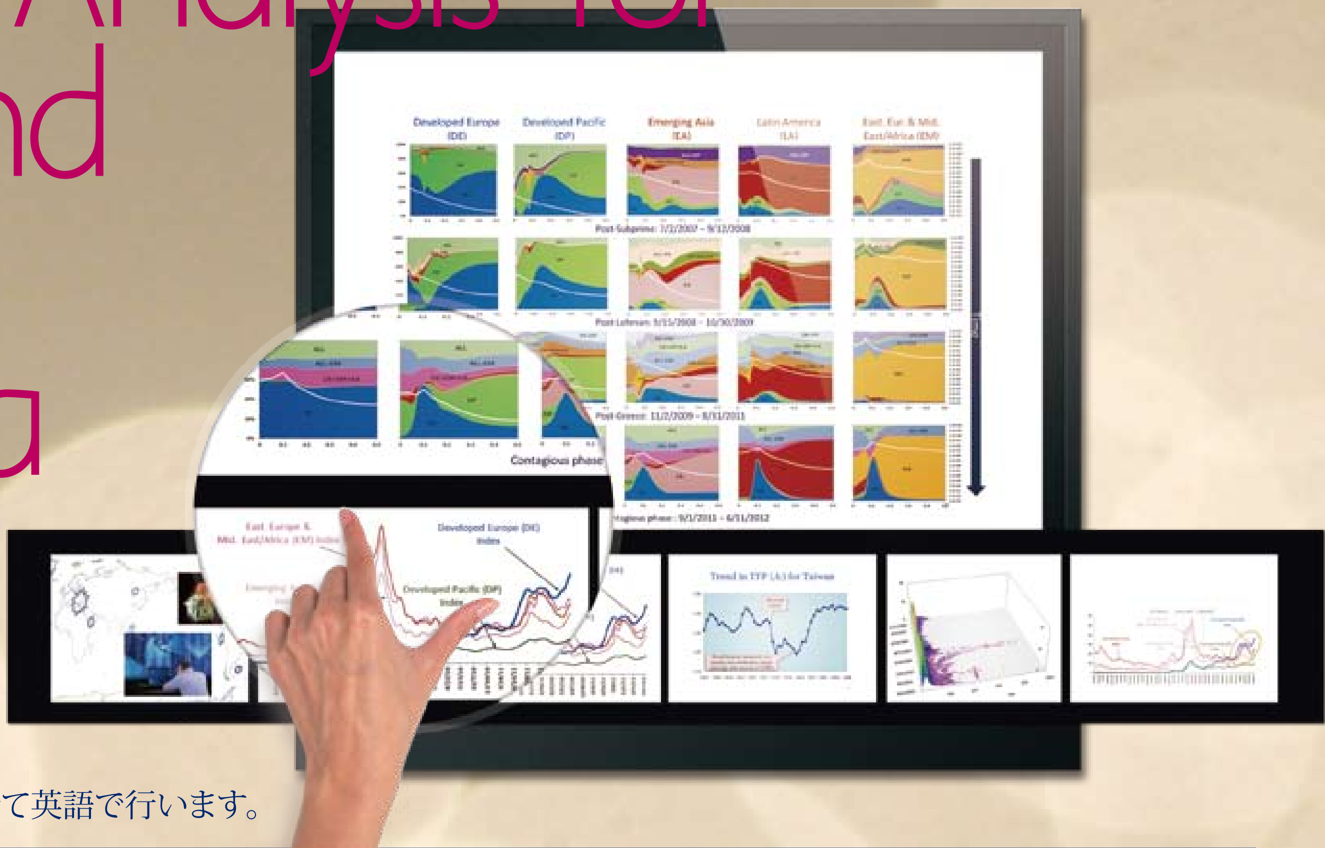
Rapid development of information and communication technology including the spread of the Internet in recent years brings about the globalization in finance and economic categories. The financial and economic phenomena which occurred in various countries significantly influence every country in the world. Actually, the global financial crisis still remains in our memory. The structural change has occurred in the world economy at the speed which we have not seen in the past, and uncertainty is increasing.

In order to avoid a new crisis, it is indispensable to fit a suitable time series model to data, and to extract information important for prediction of a future change. This lecture starts with the introduction of time series analysis and the real examples of time series analysis are introduced focusing on the latest topics.

Date: 12th, 13th, 17th, 18th September
Place: Classroom 304, 3rd floor
Nakano Campus, Meiji University

Time Series Analysis for Financial and Economic Phenomena

金融・経済現象の時系列解析



The lectures will be performed in English. 講義は全て英語で行います。

9/12 (THU) TIME SERIES ANALYSIS 1

10:30 -12:00	Yoko Tanokura	"Characteristics and stationarity of time series"
13:00 -14:30	Yoko Tanokura	"Information Criterion: AIC"
14:40 -16:10	Yoko Tanokura	"Estimation of stationary time series"
16:20 -17:50	Yoko Tanokura	"Spectrum analysis"

9/13 (FRI) TIME SERIES ANALYSIS 2

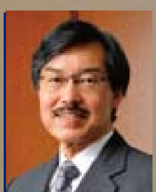
10:30 -12:00	Genshiro Kitagawa	"State-space model and the Kalman filter"
13:00 -14:30	Genshiro Kitagawa	"Analysis of non-stationary time series by state-space model"
14:40 -16:10	Genshiro Kitagawa	"Nonlinear state-space model and the Monte Carlo filter"
16:20 -17:50	Yoko Tanokura	"Price distribution dependent index and financial crises"

9/17 (TUE) ANALYSIS OF ECONOMIC TIME SERIES DATA VIA BAYESIAN MODELING METHODS

10:30 -12:00	Koki Kyo	"Introduction and case studies for economic analysis: Part 1"
13:00 -14:30	Koki Kyo	"Case studies for economic analysis: Part 2"
14:40 -16:10	Koki Kyo	"Case studies for economic analysis: Part 3"
16:20 -17:50	Koki Kyo	"Discussion"

9/18 (WED) PRACTICE OF FINANCIAL TIME SERIES ANALYSIS

10:30 -12:00	Hiroshi Tsuda	"Portfolio theory and stock"
13:00 -14:30	Hiroshi Tsuda	"Bond and interest rate"
14:40 -16:10	Hiroshi Tsuda	"Credit Risk"
16:20 -17:50	Yoko Tanokura	"Summary of time series analysis"


Genshiro Kitagawa
Research Organization of Information and System


Koki Kyo
Obihiro University of Agriculture and Veterinary Medicine


Hiroshi Tsuda
Doshisha University


Yoko Tanokura
Meiji University

Everyone is welcome to attend !

明治大学先端数理科学インスティテュート
現象数理学研究拠点

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