



FNet 2013 Kyoto

Financial Networks and Systemic Risk

Date: July 17 (Wed) to 19 (Fri), 2013

Place: Clock Tower Centennial Hall, Kyoto University, Japan



Financial Networks and Systemic Risk

http://www.econophysics.jp/fnet13_kyoto

July 17th–19th, 2013

Kyoto University, Kyoto, Japan

Conference Program (final version)

Supported by

- “Forecasting Financial Crisis”, the European Community Seventh Framework Programme (FP7/2007-2013) under Socio-economic Sciences and Humanities, Grant agreement no. 255987 (FOC-II), Europe.
- “The Program for Promoting Methodological Innovation in Humanities and Social Sciences by Cross-Disciplinary Fusing”, MEXT, Japan.
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- “Study of Innovation Strategies Conducive to Creating Future Industries”, R&D program on Science of Science, Technology and Innovation Policy, JST-RISTEX, Japan.
- The Kyoto University Foundation.



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Program

Tuesday, July 16th

17:30–19:30 *Pre-registration and Reception*
The Clock Tower Centennial Hall, Kyoto University

Wednesday, July 17th

9:30–10:00	<i>Registration and Coffee</i>		
10:00–10:10	Opening Address	Hideaki Aoyama	Kyoto University, RIETI
“FOC – Forecasting Financial Crisis” Session I Chair: Tsutomu Watanabe (University of Tokyo, RIETI)			
10:10–10:40	Financial Networks	Guido Caldarelli	IMT, Lucca
10:40–11:00	DebtRank Analysis of Japanese Credit Network	Stefano Battiston	ETH, Zurich
11:00–11:20	DebtRank-Transparency: Controlling Systemic Risk in Financial Networks	Sebastian Poledna	Medical University of Vienna
11:20–11:40	Systemic Importance of Global Financial Markets and Distress Propagation	Irena Vodenska	Boston University
11:40–12:00	Temporal Evolution of Community Structure in a Japanese Credit Network	Hiroshi Iyetomi	Niigata University
12:00–13:30	<i>Lunch</i>		
Chair: Hiroshi Iyetomi (Niigata University)			
13:30–14:00	Credit markets as networked markets: the cases of bank-firm credit relationships in Japan and in the European interbank market	Rosario N. Mantegna	Central European University
14:00–14:20	Measuring the Systemic Risk in Interfirm Transaction Networks	Makoto Hazama	Hitotsubashi University
14:20–14:50	<i>Coffee</i>		



RISTEX: "Science of Science, Technology and Innovation Policy" Session
Chair: Schumpeter Tamada (Kwansei Gakuin University)

<i>14:50–15:20</i>	Toward redesigning the structure of society and economy, how to assess and evaluate impacts of R&D investment on productivity gains	Masahiro Kuroda	Keio University
<i>15:20–15:40</i>	A General theory toward breakthrough innovation	Eiichi Yamaguchi	Doshisha University
<i>15:40–16:00</i>	Study of the innovation strategy for Japanese pharmaceutical and biotech industry	Shinya Yamamoto	Doshisha University
<i>16:00–16:20</i>	Time-lapse of academic landscape	Yuji Fujita	Nihon University
<i>16:20–16:40</i>	Analysis of citation networks	Wataru Souma	Nihon University
<i>16:40–17:00</i>	Revealing the intricate effect of collaboration on innovation	Hiroyasu Inoue	Osaka Sangyo University

Thursday, July 18th

Chair: Yoshi Fujiwara (University of Hyogo)

<i>9:30–10:00</i>	Semi-Markov graph dynamics	Enrico Scalas	Universita del Piemonte Orientale
<i>10:00–10:20</i>	A model of macroprudential policy	Hiroshi Yoshikawa	University of Tokyo, RIETI
<i>10:20–10:40</i>	Artificial Lend-Redeem Model on Irregular Topologies	Ranaivo Razakanirina	University of Geneva



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10:40–12:00		Poster Session	
1.	Network Approach to Dynamic Correlations in Stock Markets	Yuta Arai	Niigata University
2.	The joint probability density function of firms revealed by supervised landform classification	Shouji Fujimoto	Kanazawa Gakuin University
3.	Total factor productivity and patent quality	Atushi Ishikawa	Kanazawa Gakuin University
4.	Detecting Correlation Structure of Stock Returns by Network Clustering	Takashi Isogai	Bank of Japan
5.	The Ownership Network Structure in Business Group: Evidence from Korean Chaebol	Yong Hyun Kwon	KAIST
6.	Analysis of a Bidirected Bipartite Credit Network Formed by Banks and Listed Firms in Japan	Yuki Matsuura	Niigata University
7.	Stochastic model for order book dynamics in online product market	Takayuki Mizuno	National Institute of Informatics
8.	Knowledge Map in Japan	Yusuke Naito	Artificial Life Laboratory, Inc.
9.	Causality Data Mining for the Time Series of Financial Futures on Crude Oil in Japan	Lukas Pichl	International Christian University
10.	Parameter estimation methods of a multiplicative stochastic process for an analysis of financial time series	Aki-Hiro Sato	Kyoto University
11.	Attacking Dynamic Asset Selection Problems through On-line Machine Learning Techniques	Kazunori Umino	Tokyo Institute of Technology
12.	The origin of the ARCH and GARCH models from the dealer model	Kenta Yamada	Waseda Institute for Advanced Study
13.	The Complex Network Study of Money and CO2 Emission Flows between Industrial Sectors in Asian Countries using Input-Output Table	Kazuko Yamasaki	Tokyo University of Information Sciences
14.	Comparative Study of Community Structures in Stock Correlation Networks	Takeo Yoshikawa	Niigata University



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12:00–13:30 Lunch

“FOC – Forecasting Financial Crisis” Session II

Chair: Stefano Battiston (ETH, Zurich)

13:30–14:00	An agent based model of leveraged credit network vulnerability	Mauro Gallegati	Polytechnic University of Marche
14:00–14:20	Connectivity and Systemic Risk in the Brazilian Payment System	Sergio R. S. Souza	Central Bank of Brazil
14:20–14:40	Direct Evidence for Synchronization in International Business Cycle	Yuichi Ikeda	Kyoto university
14:40–15:00	Bootstrapping topological properties and systemic risk of complex networks using the fitness model	Andrea Gabrielli	ISC, CNR

15:00–15:30 Coffee

Chair: Wataru Souma (Nihon University)

15:30–16:00	New Metrics for Economic Complexity: Measuring the Intangible Growth Potential of Countries	Matthieu Cristelli	ISC, CNR
16:00–16:20	Countries' production spectroscopy and the network of products	Andrea Tacchella	ISC, CNR

16:30 *Leaving for Banquet (Chartered bus leaves in front of the Clock Tower)*

18:00 *Banquet at The SODOH Higashiyama Kyoto (<http://www.thesodoh.com/en/>)*



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Friday, July 19th

Chair: Anirban Chakraborti (Ecole Centrale Paris)			
9:30–10:00	Economics 2.0: Towards a Self-Regulating, Participatory Market Society to Counter Complexity and Extreme Events	Dirk Helbing	ETH, Zurich
10:00–10:20	A network analysis of production and its renewal	Yuji Aruka	Chuo University
10:20–10:40	Systemic Risk: Shock Propagation in Core-Periphery Networks	Akira Namatame	National Defense Academy
10:40–11:00	From Power-Law to Log-Normal? Structural Information Distortion by Human Agent and Its Effect on Networks Based on the Case of Facebook	Ji Young Park	University of Tokyo
11:00–11:20	Risk-Sharing Networks	Eunyoung Moon	University of Liverpool
11:20–11:40	Dynamics of Trust in Networks and Systemic Risk	Joao da Gama Batista	Ecole Centrale Paris
11:40–13:10	<i>Lunch</i>		
Chair: Duk Hee Lee (KAIST)			
13:10–13:30	Market-wide price co-movements around crashes in Tokyo stock exchange	Jun-ichi Maskawa	Seijo University
13:30–13:50	Dynamic Interaction Between Asset Prices and Bank Behavior: A Systemic Risk Perspective	Aki-Hiro Sato	Kyoto University
13:50–14:10	Visualization and analyses of co-movement of stocks during a financial crisis	Anirban Chakraborti	Ecole Centrale Paris
14:10–14:30	Financial market risk analysis through cross-correlation's eigenvector components distribution	Quang Nguyen	Vietnam National University



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<i>14:30–15:00</i>	<i>Coffee</i>		
Chair: Irena Vodenska (Boston University)			
<i>15:00–15:20</i>	Risk of Herd and Phase Transition in a Sequential Voting Experiment	Shintaro Mori	Kitasato University
<i>15:20–15:40</i>	Transaction costs, network topologies, and information cascades in the financial markets	Joohyun Kim	KAIST
<i>15:40–16:00</i>	Co-evolution of Portfolio Investment Networks and Indicators for Financial Crises	Andreas Joseph	City University of Hong Kong
<i>16:00–16:20</i>	Closing Remark	Stefano Battison	ETH, Zurich



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