ADVANCE PROGRAM
SSS'06
The 38th ISCIE International Symposium
on
Stochastic Systems Theory and Its Applications
November 9-10, 2006
RAKO Hananoi Hotel, Suwa, Nagano, Japan
Sponsored by The Institute of Systems, Control and Information Engineers

In Association with:
The Society of Instrument and Control Engineers, Japan
The Information Processing Society of Japan
The Institute of Electrical Engineers of Japan
The Institute of Electronics, Information and Communication Engineers, Japan
Research Institute of Signal Processing, Japan
IEEE Tokyo Section: Societies of Control Systems;
Geoscience and Remote Sensing; Signal Processing; Systems, Man and Cybernetics

Session Schedule

	Room A	Room B
Nov. 9	10:20-12:00 **TA1a** Analysis of Stochastic Processes and Stochastic Systems (1)	10:20-12:00 **TA1b** Neural Net and Chaos
	12:00-13:00 Lunch	
	13:00-13:50 **TP1a** Analysis of Stochastic Processes and Stochastic Systems (2)	13:00-13:50 **TP1b** Neural Net and Fuzzy Systems
	13:50-14:00 Coffee Break	
	14:00-15:40 **TP2a** Mathematical Finance	14:00-15:40 **TP2b** Image Processing
	15:40-16:00 Coffee Break	
	16:00-17:00 Sunahara Memorial Lecture	
	18:30-20:30 Banquet	
Nov. 10	09:00-10:15 **FA1a** Medical and Biomedical Systems	09:00-10:40 **FA1b** Applications in Engineering (1)
	10:40-11:00 Coffee Break	
	11:00-12:00 Sunahara Memorial Lecture	
	12:00-13:00 Lunch	
	13:00-14:40 **FP1a** System Identification and Parameter Estimation	13:00-14:40 **FP1b** Applications in Engineering (2)
	14:40-14:50 Coffee Break	
	14:50-15:40 **FP2a** Signal Processing	14:50-16:05 **FP2b** Applications in Engineering (3)

GENERAL INFORMATION

Date and Location

The 38th International Symposium on Stochastic Systems Theory and its Applications will be held on November 9-10, 2006 at RAKO Hananoi Hotel, 2-1200-3, Takashima, Suwa, Nagano, 392-0022 Japan. The Symposium Program and Steering Committee joins in inviting you to participate in this annual international symposium of the ISCIE. Two Sunahara Memorial Lectures and twelve technical sessions will feature a wide range of theoretical and applied topics in stochastic systems.

Language

The official Languages of the Symposium are both English and Japanese, but **all the documents including presentation material should be prepared only in English.** Each presentation is allotted 25 minutes including discussions.

Suwa City

Called the "Switzerland of the Orient", Suwa City is favored with natural environment -- Lake Suwa, the Kirigamine highland and spa. Suwa is also an advanced industrial city covering from precision machining to mechatronics.

Public Transportation

The venue is located near JR Kami-Suwa station. Using JR Chuo West line, it takes about 2 hours and 40 minutes from Nagoya to Kami-Suwa. From Tokyo, it takes about 2 hours and 20 minutes via Chuo East line. From Osaka to Nagoya, it takes about 1 hour via Shin-kan-sen. From Kami-Suwa station to the venue, it takes 5 minutes by taxi.

Symposium Preprints

A copy of the collection of extended abstracts will be provided to each symposium registrant. Additional copies of the preprints may be purchased at the symposium for ¥3,000/copy.

Banquet

All registrants are encouraged to participate in the banquet.

Date & Place: November 9, 18:30 − 20:30,
at the conference venue.

Full registration fee includes the banquet fee. Full-registrants will be invited to the banquet. Student registrants and Spouses of registrants are requested to pay ￥2,000 and ￥3,000, respectively. Although the banquet tickets are available at the registration desk, it is recommended to purchase the banquet tickets in advance together with advanced payment of registration fees.

Proceedings

Authors are requested to submit their camera-ready manuscripts electronically by November 1, 2006. In order to assure high-quality proceedings, all manuscripts will be reviewed and only accepted ones will appear in the proceedings. Accepted papers more than six (6) pages will be charged for ¥5,000 per each exceeded two (2) pages.

Presentation tools

The liquid crystal projectors for note-PCs and OHPs for transparent films are prepared. However, please bring yourselves note-PCs .

Registration

All participants are requested to pay the registration fees **in advance** in principle. The deadline for the advanced registration is **October 31, 2006**. Those who cannot finish the advanced registration due to unavoidable reasons are required to pay at a symposium registration desk (on-site registration). Full registration includes attendance at all technical sessions, a copy of the collection of extended abstracts and one banquet ticket. Registration fees are as follows:

	Advanced (before **October 31, 2006**)	On-Site
Full Registration		
for Member	¥12,000	¥14,000
for Non-Member	¥14,000	¥16,000
Student Registration	￥2,000	￥3,000

Banquet Fees for Student and Spouse	
Student	￥2,000
Spouse	￥3,000

[A] All registrants are requested to fill the **Registration Form** and send it via email to the Local Arrangement before October 31, 2006. The email address of the local arrangement is sss06@ks.suwa.tus.ac.jp. The form is available from SSS'06 homepage, and where the following information is to be filled in:

1) Name of registrant   2) Affiliation and Address
3) Phone Number, Fax, and E-mail address
4) Total amount of payment
5) The date of money transfer

[B] Advanced payment of the registration fees should be done by Bank Transfer to the bank bellow.

Bank Name: Hachijuni Bank （八十二銀行）
Branch Name: Suwa Branch, Branch No.: 515
Account Title: esuesuesu symposium
（エスエスエスシンポジウム）
Account Number: 922530

[C] The email address the Registration Form should be sent to is:

Prof. Shin'ichi Aihara, SSS'06 Local Arrangement
E-mail: sss06@ks.suwa.tus.ac.jp

Technical Program

November 9, Thursday

Room A	Room B

Session TA1a   10:20-12:00   Room A
Analysis of Stochastic Processes and Stochastic Systems (1)
Chair: M. Ishikawa (Yamaguchi Univ.)
 	
10:20-10:45
TA1a-1   *Probabilistic Travel Time Estimation*
    E. Agafonov (INFOHUB Ltd.), A. Bargiela (Nottingham Trent Univ.) and M. Tanaka (Konan Univ.)
10:45-11:10
TA1a-2   *Convergence Property of Noise-induced Synchronization*
    K. Yoshida and Y. Nishizawa (Utsunomiya Univ.)
11:10-11:35
TA1a-3   *The Time-evolution of Dynamic Behavior in a Cutting Model using Pullback*
    H. Oneda, K. Sato, K. Yoshida (Utsunomiya Univ.), T. Soutome (PILOT Corp.), S. Karube (Oita National College of Tech.) and S. Yamamoto (Utsunomiya Univ.)
11:35-12:00
TA1a-4   *Estimation of Precautionary Demand Function*
    Y. Morita (Kyoto Gakuen Univ.), Md. J. Rahman (Rajshahi Univ.) and S. Miyagawa (Kyoto Gakuen Univ.)
	Session TA1b 10:20-12:00 Room B
	Neural Net and Chaos
	Chair: T. Fukuda (Otemon Gakuin Univ.)
	
	10:20-10:45
	TA1b-1 *A new multi-layered GMDH-type neural network self-selecting optimum neural network architecture*
	    T. Kondo (Univ. of Tokushima)
	10:45-11:10
	TA1b-2 *Three-dimensional medical image recognition of blood vessels by multi-layered GMDH-type neural network self-selecting optimum neural network architecture*
	    T. Kondo (Univ. of Tokushima)
	11:10-11:35
	TA1b-3 *Stable Fixed-Point Assignment Problems in Neural Networks and Application to Understanding Deformed and Noisy Images*
	    H. Inaba, T. Takahashi and K. Alimhan (Tokyo Denki Univ.)
	11:35-12:00
	TA1b-4 *On a One-dimensional Chaotic Discrete Dynamical System with Piecewise Uniform Invariant Density*
	    T. Yasuda (Univ. of Shiga Pref.)

12:00-13:00 Lunch	

Session TP1a   13:00-13:50   Room A
Analysis of Stochastic Processes and Stochastic Systems (2)
Chair: N. Nakano (Otemon Gakuin Univ.)
 	
13:00-13:25
TP1a-1   *Detection of Pollution Load and Identification of Its Discharged Location and Magnitude for a Polluted River*
    M. Kashiwagi and A. Ohsumi (Kyoto Institute of Tech.)
13:25-13:50
TP1a-2   *Influence of the Random Disturbances on the Chemotactic Bacterial Colony Formations*
    M. Ishikawa and T. Tanabe (Yamaguchi Univ.)
	Session TP1b 13:00-13:50 Room B
	Neural Net and Fuzzy Systems
	Chair: T. Yasuda (Univ. of Shiga Pref.)
	
	13:00-13:25
	TP1b-1 *On Fuzzy Random Vectors with Stepwise Membership Levels and Their Application to Questionnaire Survey*
	    Y. Egawa and T. Fukuda (Otemon Gakuin Univ.)
	13:25-13:50
	TP1b-2 *A Quasi-ARMA Model for Financial Time Series Prediction*
	    L. Huang, J. Hu and K. Hirasawa (Waseda Univ.)

13:50-14:00 Coffee Break	

Session TP2a 14:00-15:40 Room A **Mathematical Finance** Chair: Y. Morita (Kyoto Gakuen Univ.) 14:00-14:25 TP2a-1 *A Bank loan pricing model based on recovery rate distribution* 　　T. Kaneko and H. Nakagawa (Resona Bank, Ltd.) 14:25-14:50 TP2a-2 *Economic time series analysis based on ARCH type model with input-output structure* 　　S. Yamamoto, O. Kaneko (Osaka Univ.) and T. Fujii (Fukui Univ. of Tech.) 14:50-15:15 TP2a-3 *A Perturbation of Merton Model for Credit Risk* 　　J. Akahori, Y. Kanishi, T. Tsuchiya and T. Yamada (Ritsumeikan Univ.) 15:15-15:40 TP2a-4 *Recursive Parameter Identification for Infinite-dimensional Factor Model by using Particle Filter* 　　S. Aihara (Tokyo Univ. of Science, Suwa) and A. Bagchi (Univ. of Twente)	Session TP2b 14:00-15:40 Room B **Image Processing** Chair: K. Inoue (Kyushu Institute of Tech.) 14:00-14:25 TP2b-1 *A Study on Classifier by Weak SVM Boosting* 　　H. Saito, T. Hatanaka (Osaka Univ.), and K. Uosaki (Fukui Univ. of Tech.) 14:25-14:50 TP2b-2 *The KanNon System - vowel recognition using statistical pattern recognition* 　　R. Horiguchi, S. Nakano (Ritsumeikan Univ.), K. Nakamuro (OMRON Corp.) and S. Sugimoto (Ritsumeikan Univ.) 14:50-15:15 TP2b-3 *Inverse Filters and Image Generation for Presbyopes* 　　H. Mori, T. Shimahashi, W. F. Al Maki, M. Matsubara and S. Sugimoto (Ritsumeikan Univ.) 15:15-15:40 TP2b-4 *Chromatic Information Adaptation for Complexity-Based Integration of Multi-Viewpoint Imagery* 　　K. Kamejima (Osaka Institute of Tech.)
15:40 -16:00	Coffee Break
16:00-17:00	**Sunahara Memorial Lecture** 　　Chair: S. Aihara (Tokyo Univ. of Science, Suwa) 　　*Identification of Infinite-Dimensional Ineterst Rate Models* 　　Prof. A. Bagchi (Univ. of Twente)
18:30-20:30	Banquet

November 10, Friday

Room A	Room B
Session FA1a 9:00-10:15 Room A **Medical and Biomedical Systems** Chair: S. Goto (Saga Univ.) 9:00-9:25 FA1a-1 *Pattern Recognition of EEG Signals during Hand and Foot Motor Imagery* 　　T. Yamaguchi, M. Taniguchi, K. Nagata, M. Mihara, P. Q. Truong, K. Inoue, M. Fujio, K. Kumamaru (Kyushu Institute of Tech.) and G. Pfurtscheller (Graz Univ. of Tech.) 9:25-9:50 FA1a-2 *Separation Performance of ICA Algorithms Dependent on the Source Number* 　　T. Ishibashi, S. Tamatsuka, M. Sugahara, K. Inoue (Kyushu Institute of Tech.), H. Gotanda (Kinki Univ.) and K. Kumamaru (Kyushu Institute of Tech.) 9:50-10:15 FA1a-3 *Estimation of the Number of Unknown Source Signals and Its Application to EEG Analysis* 　　T. Ishibashi, M. Sugahara, S. Tamatsuka, K. Inoue (Kyushu Institute of Tech.), H. Gotanda (Kinki Univ.) and K. Kumamaru (Kyushu Institute of Tech.)	Session FA1b 9:00-10:40 Room B **Applications in Engineering (1)** Chair: Y. Fukayama (Niihama National College of Tech.) 9:00-9:25 FA1b-1 *A Stochastic Regression Analysis of Higher Order between Two Different Wavy Environmental Factors around VDT with Attachment of TecnoAO* 　　Y. Fujita (Onomichi Univ.) and M. Ohta (Emeritus Prof. of Hiroshima Univ.) 9:25-9:50 FA1b-2 *Localization of a Moving Sensor by Particle Filters* 　　M. Ito and M. Tanaka (Konan Univ.) 9:50-10:15 FA1b-3 *Analysis of Local Influence with Capricious Agents in Agent-Based Simulations* 　　N. Nakano (Otemon Gakuin Univ.) 10:15-10:40 FA1b-4 *Risk-sensitive Preview Tracking Control of Stochastic Systems* 　　Y. Sawada (Kyoto Institute of Tech.)

10:40-11:00	Coffee Break

11:00-12:00	**Sunahara Memorial Lecture** Chair: K. Kamejima (Osaka Institute of Tech.) *Autonomous pattern formation in the skin of animals* Prof. S. Kondo (Nagoya Univ.)

12:00-13:00	Lunch

Session FP1a   13:00-14:40   Room A
System Identification and Parameter Estimation
Chair: T. Hatanaka (Osaka Univ.)
 	
13:00-13:25
FP1a-1   *New smoothers for discrete-time linear stochastic systems with unknown disturbances*
     A. Tanikawa (Osaka Institute of Tech.)
13:25-13:50
FP1a-2   *Optimization of Linear Observations for the Stationary Kalman Filter based on a Generalized Water Filling Theorem*
     Y. Takeuchi (Osaka Univ. of Education)
13:50-14:15
FP1a-3   *Identification of Stress Corrosion Cracking Profiles using ε-Greedy Search Inverse Analysis in Eddy Current Testing*
     F. Kojima (Kobe Univ.), T. Usami (Mitsubishi Electric Corp.) and N. T. Duong (Kobe Univ.)
14:15-14:40
FP1a-4   *Analysis of Brain Activity from Temporal Data measured by Near Infrared Spectroscopy*
     K. Numa (Kokushikan Univ.), M. Takesue (Tokyo Denki Univ.), K. Oura (Kokushikan Univ.) and I. Hanazaki (Tokyo Denki Univ.)
	Session FP1b 13:00-14:40 Room B
	Applications in Engineering (2)
	Chair: Y. Sawada (Kyoto Institute of Tech.)
	
	13:00-13:25
	FP1b-1 *Acoustical Positioning applying the Gold-sequence PRK*
	     Y. Fukayama (Niihama National College of Tech.)
	13:25-13:50
	FP1b-2 *A New GNSS Relative Positioning Algorithm Based on GR Models*
	     S. Sugimoto, Y. Kubo, S. Fujita and T. Kazuno (Ritsumeikan Univ.)
	13:50-14:15
	FP1b-3 *Very Precise Point Positioning Based on GR Models*
	     S. Sugimoto, Y. Kubo and S. Fujita (Ritsumeikan Univ.)
	14:15-14:40
	FP1b-4 *Estimation and Validation of Integer Ambiguity in Carrier Phase GPS Positioning*
	     Y. Kubo, S. Fujita and S. Sugimoto (Ritsumeikan Univ.)

14:40-14:50	Coffee Break

Session FP2a   14:50-15:40   Room A
Signal Processing
Chair: F. Kojima (Kobe Univ.)
 	
14:50-15:15
FP2a-1   *A Simple Adaptive Filter Method for Cancellation of the Coupling Wave in OFDM Signals at SFN Relay Station*
     H. Sakai, T. Oka and K. Hayashi (Kyoto Univ.)
15:15-15:40
FP2a-2   *Attitude Change Rate Estimation from Multi-Head Star Sensor Images*
     K. Nishiguchi and S. Yoshikawa (Mitsubishi Electric Corp.)
	Session FP2b 14:50-16:05 Room B
	Applications in Engineering (3)
	Chair: Y. Kubo (Ritsumeikan Univ.)
	
	14:50-15:15
	FP2b-1 *Evolutionary Computation for Human Hand Detection of A Partner Robot*
	     S. Hashimoto (Kyoto Gakuen Univ.), F. Kojima (Kobe Univ.) and N. Kubota (Tokyo Metropolitan Univ. and JST)
	15:15-15:40
	FP2b-2 *Loop-Avoidance Method for Load-Balancing Routing Algorithm*
	     H. Une (Chiba Univ.), F. Qian (Kanto Gakuin Univ.) and H. Hirata (Chiba Univ.)
	15:40-16:05
	FP2b-3 *Deterioration Prediction of Rotating Equipment Based on Vibration Measurement by Considering Data Reliability*
	     S, Goto, K. Koga (Saga Univ.), T. Furue, C. Matsuo, M. Sueyoshi, Y. Imaizumi, H. Hatazaki (Kyushu Electric Power Corp.) and M. Nakamura (Saga Univ.)