

November 1, 2014 (Saturday)

Session: 1A1, 10:20–11:35, Room A

Control of Stochastic Systems and Stochastic Processes

Chair: Shiro Tamaki (University of the Ryukyus)

10:20–10:45

1A1-1 Design of Passive-Pitch Stall Control for Small-Scaled Wind Turbine in a Gale Environment

S. Tamaki, M. Futami and A. Faramarz (University of the Ryukyus)

Questioner: A. Zgonnikov (University of Aizu)

10:45–11:10

1A1-2 Human Intermittent Control: Concept of Noise-Driven Control Activation

A. Zgonnikov, I. Lubashevsky and S. Kanemoto (University of Aizu)

Questioner: G. Nakura

11:10–11:35

1A1-3 Stochastic Optimal Tracking with Preview for Linear Continuous-Time Markovian Jump Systems by Output Feedback

G. Nakura

Questioner: S. N. Sharma (National Institute of Technology, Surat)

Session: 1B1, 10:20–11:35, Room B

Signal Detection and Statistical Signal Processing

Chair: Hiromu Gotanda (Kinki University)

10:20–10:45

1B1-1 Comparative Studies on Several Image Zooming Algorithms

K. Nakao (Ritsumeikan University), M. Suwa (OMRON Corporation),

Y. Kubo and S. Sugimoto (Ritsumeikan University)

Questioner: Y. Koya (Kobe City College of Technology)

10:45–11:10

1B1-2 Detection of Cardiac Diseases from ECG Using Nonlinear Stochastic Filters

C. Matoba, K. Imamasu, H. Suemitsu and T. Matsuo (Oita University)

Questioner: T. Umetani (Konan University)

11:10–11:35

1B1-3 Change Detection of State of Indoor Environment based on Singular Spectrum Transformation of Strength of Wireless LAN Signals

T. Umetani and Y. Tamura (Konan University)

Questioner: Y. Kubo (Ritsumeikan University)

Session: 1A2, 13:10–14:25, Room A
Modeling of Stochastic Systems and Stochastic Processes
Chair: Masatoshi Fujisaki (Ritsumeikan University)

13:10–13:35

- 1A2-1 Stochastic Oscillations in Periodically Forced Pendulums
H. Ohtagaki and T. Yamaguchi (Okayama University of Science)
Questioner: Y. Sawada (Kyoto Institute of Technology)

13:35–14:00

- 1A2-2 Collision Detection for Flexible Links of Two-Link Manipulators Using Residual Signal of State Estimator
T. Katsuura, Y. Sawada and Y. Okamoto (Kyoto Institute of Technology)
Questioner: Y. Takeuchi (Osaka Kyoiku University)

14:00–14:25

- 1A2-3 Optimization of Continuous-Time Observations for the Stationary Kalman-Bucy Filter
Y. Takeuchi (Osaka Kyoiku University)
Questioner: M. Fujisaki (Ritsumeikan University)

Session: 1B2, 13:10–14:25, Room B
Separation and Classification of Stochastic Data
Chair: Tokuo Fukuda (Otemon Gakuin University)

13:10–13:35

- 1B2-1 Separation of Individual Instrumental Sounds in Monaural Music Signals Applying a Modified Wiener Filter with a Parameter Identification Technique on the Time-frequency Plane
Y. Fukayama and S. Ogawa (Hiroshima Institute of Technology)
Questioner: H. Gotanda (Kinki University)

13:35–14:00

- 1B2-2 A New Blind Sound Source Separation Based on Frame-Wisely Obtained DOA Estimates
S. Nishimura (Kinki University), N. Iwasaki, Katsuhiko Inoue (Kyushu Institute of Technology) and H. Gotanda (Kinki University)
Questioner: not assigned

14:00–14:25

- 1B2-3 Classification of Echocardiogram using Self-organizing Maps
Y. Koya (Kobe City College of Technology)
Questioner: Y. Fukayama (Hiroshima Institute of Technology)

Session: 1C2, 13:10–14:25, Room C

Stochastic Optimization Methods and Evolutionary Methods

Chair: Yuji Wakasa (Yamaguchi University)

13:10–13:35

1C2-1 H-2 Control for Sampled-Data Systems with Variable Sampling Rate

H. Lee and Y. Fujisaki (Osaka University)

Questioner: Y. Wakasa (Yamaguchi University)

13:35–14:00

1C2-2 Distributed Particle Swarm Optimization Based on Primal-Dual Decomposition Architectures

Y. Wakasa and S. Yamasaki (Yamaguchi University)

Questioner: E. Manasseh (NM-AIST)

14:00–14:25

1C2-3 Demand Side Management to Minimize Peak-to-Average Ratio in Smart Grid

E. Manasseh (NM-AIST), S. Ohno (Hiroshima University) K. Kalegele (NM-AIST)
and R. Tariq (Hiroshima University)

Questioner: K. Takaba (Ritsumeikan University)

Session: 1A3, 14:50–16:30, Room A

Estimation of Stochastic Systems and Stochastic Processes

Chair: Yuichi Sawada (Kyoto Institute of Technology)

14:50–15:15

1A3-1 Nonlinear Filtering with Observed Discontinuous Semimartingales

M. Fujisaki (Ritsumeikan University) and T. Komatsu (Osaka City University)

Questioner: G. Nakura

15:15–15:40

1A3-2 H-infinity State Estimation for Linear Impulsive Systems with Stochastic Uncertainties

G. Nakura

Questioner: H. Ohtagaki (Okayama University of Science)

15:40–16:05

1A3-3 Fixed Interval Optimal Estimation for Linear Discrete-Time Markovian Jump Systems
by Maximum Likelihood Approach

G. Nakura

Questioner: M. Murata (NTT Communication Science Laboratories)

16:05–16:30

1A3-4 Gaussian Unscented Filter

M. Murata, H. Nagano and K. Kashino (NTT Communication Science Laboratories)

Questioner: H. Konno (University of Tsukuba)

Session: 1B3, 14:50–16:30, Room B

Computer Control of Networks

Chair: Kiyotsugu Takaba (Ritsumeikan University)

14:50–15:15

1B3–1 Optimal Filtering for Systems with Finite-step Autocorrelated Process Noises,
Random One-step Sensor Delay and Missing Measurement

D. Chen, L. Xu, D. Li and H. Zhao (Harbin University of Science and Technology)

(Cancelled)

15:15–15:40

1B3–2 Sum-Rate Optimization Problems for Multiuser OFDM Systems

R. Tariq and S. Ohno (Hiroshima University)

Questioner: Yuji Wakasa (Yamaguchi University)

15:40–16:05

1B3–3 Multi-Agent Consensus on Noisy Networks with Antagonistic Interactions

N. T. H. Linh, T. Wada (Osaka University), I. Masubuchi (Kobe University),

T. Asai and Y. Fujisaki (Osaka University)

Questioner: K. Takaba (Ritsumeikan University)

16:05–16:30

1B3–4 Robust Synchronization of Passive Agents over Stochastically Switching Networks

K. Takaba (Ritsumeikan University)

Questioner: N. T. H. Linh (Osaka University)

Session: 1C3, 14:50–16:30, Room C

Mathematical Finance

Chair: Yukio Fukayama (Hiroshima Institute of Technology)

14:50–15:15

1C3-1 Pricing and Hedging Look-Back Power Options

T. Fujita and Y. Kawanishi (Chuo University)

Questioner: J. Akahori (Ritsumeikan University)

15:15–15:40

1C3-2 A Path Integral Approach to WKB Approximation of HJB Equations

K. Aihara, J. Akahori and T. Nakai (Ritsumeikan University)

Questioner: E. Manasseh (NM-AIST)

15:40–16:05

1C3-3 A Liability Tracking Portfolio for Pension Fund Management

M. Ieda (Tokyo Institute of Technology), T. Yamashita (The Government Pension Investment Fund, Japan) and Y. Nakano (Tokyo Institute of Technology)

Questioner: T. Fujita (Chuo University)

16:05–16:30

1C3-4 Simulation Studies for a Class of Fuzzy Random Data

T. Fukuda (Otemon Gakuin University)

Questioner: M. Ieda (Tokyo Institute of Technology)

Special Lecture: 16:40–17:40, Room A

Chair: Yuichi Sawada (Kyoto Institute of Technology)

16:50–17:50

An Outlook on the Identification of MIMO Linear and Nonlinear Stochastic Systems

Akira Ohsumi (Kyoto Institute of Technology)

Banquet: 18:00–20:00, The 60th Anniversary Hall, Kyoto Institute of Technology

November 2, 2014 (Sunday)

Session: 2A1, 10:00–11:40, Room A

Medical and Biomedical Systems

Chair: Katsuhiko Inoue (Kyushu Institute of Technology)

10:00–10:25

- 2A1-1 Gene Selection Based On an Improved Iterative Feature Elimination Random Survival Forest
T. W. Soon, K. Moorthy, M. S. Mohamad, S. Deris (University Teknologi Malaysia), S. Omatu (Osaka Institute of Technology) and M. Yoshioka (Osaka Prefecture University)
Questioner: A. Zgonnikov (University of Aizu)

10:25–10:50

- 2A1-2 On the Qualitative Analysis of Nonautonomous SEIR Epidemic Model with the Standard Contact Rate
D. Li, D. Chen and H. Zhao (Harbin University of Science and Technology)
(Cancelled)

10:50–11:15

- 2A1-3 A Diffusion Approximation of a Stochastic Model of Metastasis Formation
A. Naganawa and T. Shibutani (Ritsumeikan University)
Questioner: Y. Fujisaki (Osaka University)

11:15–11:40

- 2A1-4 A Hybrid Brain-Computer Interface System using SS-VEP and EEG Related to Motor Imagery
T. Yamaguchi, K. Nakao, M. Maeda and Katsuhiko Inoue (Kyushu Institute of Technology)
Questioner: M. S. Mohamad (University Teknologi Malaysia)

Session: 2B1, 10:00–11:40, Room B

Statistical Methods for GNSS Navigation

Chair: Masahiro Tanaka (Konan University)

10:00–10:25

- 2B1-1 Detection and Correction of Doppler Biases in Kalman Filter-based Positioning
A. Mouri (Sanda works, Mitsubishi Electric Corporation), Y. Kubo and S. Sugimoto (Ritsumeikan University)
Questioner: not assigned

10:25–10:50

- 2B1-2 Estimation Methods of VTEC Distribution Applied by Spherical Cap Harmonic Analysis and Kalman Filter
M. Ohashi, Y. Sato, Y. Kubo and S. Sugimoto (Ritsumeikan University)
Questioner: Y. Fukayama (Hiroshima Institute of Technology)

10:50–11:15

- 2B1-3 Further Studies on the VPPP by using GNSS Multiple Antennas
Y. Karatsu, M. Ozaki, Y. Kubo and S. Sugimoto (Ritsumeikan University)
Questioner: H. Ohtagaki (Okayama University of Science)

11:15–11:40

- 2B1–4 Improvement of GPS Precise Point Positioning Accuracy in Urban Canyons -- Further Results
M. Ozaki, M. Ohashi, Y. Kubo and S. Sugimoto (Ritsumeikan University)
Questioner: T. Umetani (Konan University)
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Session: 2C1, 10:00–11:15, Room C

Analysis of Stochastic Systems and Stochastic Processes I

Chair: Hidetoshi Konno (University of Tsukuba)

10:00–10:25

- 2C1–1 Non-Markovian Brownian Motion with Long-Memory Having Basset and Non-Basset Type Terms
H. Konno and Y. Uchiyama (University of Tsukuba)
Questioner: I. Lubashevsky (University of Aizu)

10:25–10:50

- 2C1–2 Markovian Random Walks on Square Lattice with Constant Non-Symmetric Diffusion Coefficient Matrix
K. Hijikata, Ihor Lubashevsky and A. Vazhenin (University of Aizu)
Questioner: J. Inoue (Tokyo Denki University)

10:50–11:15

- 2C1–3 Analysis of the Knack of Periodic Motion using a Bayesian Network
J. Inoue, T. Miyano and I. Hanazaki (Tokyo Denki University)
Questioner: A. Hidaka (Tokyo Denki University)
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Session: 2A2, 13:10–14:25, Room A

Applications in Engineering related to Stochastic Processes and Stochastic Systems I

Chair: Kunihiro Oura (Kokushikan University)

13:10–13:35

- 2A2–1 Dynamic Programming Algorithm for Stochastic Logical Systems and Its Application to Residual Gas Fraction Control
Y. Wu (Harbin University of Science and Technology,) and T. Shen (Sophia University)
Questioner: Y. Matsuda (Saga University)

13:35–14:00

- 2A2–2 Construction of a Liquid Level Model of Separator in an OTEC Experimental Plant with Uehara Cycle via Weighted Least Squares
Y. Matsuda, S. Goto, T. Sugi, T. Morisaki and Y. Ikegami (Saga University)
Questioner: not assigned

14:00–14:25

- 2A2–3 Impact of Stochastic Load Variation on Generation Units
M. S. Angelo and R. Ghorbani (University of Hawaii at Manoa)
Questioner: not assigned

Session: 2B2, 13:10–14: 25, Room B

Pattern Recognition, Computer Vision and 3-D Information Processing

Chair: Yukihiro Kubo (Ritsumeikan University)

13:10–13:35

2B2-1 Development of Pupil Reflex Measurement System by Using the Non-invasive Measurement Method with Image Recognition

S. Ito, H. Miyagawa (Yasaka Information Systems Corporation)
and S. Goto (Saga University)

Questioner: A. Hidaka (Tokyo Denki University)

13:35–14:00

2B2-2 Randomized and Dimension Reduced Kernel Generation for Support Vector Machine

A. Hidaka (Tokyo Denki University) and T. Kurita (Hiroshima University)

Questioner: S. Goto (Saga University)

14:00–14:25

2B2-3 Robust Nonlinear Kalman Filter and Its Application to Pose Estimation by Using a Mobile Depth Sensor

M. Tanaka and H. Kaku (Konan University)

Questioner: S. Ito (Saga University)

Session: 2C2, 13:10–14: 25, Room C

Analysis of Stochastic Systems and Stochastic Processes II

Chair: Masaaki Ishikawa (Yamaguchi University)

13:10–13:35

2C2-1 Stochastic Bifurcation in the Plankton System under the Fish School

M. Ishikawa (Yamaguchi University)

Questioner: H. Konno (University of Tsukuba)

13:35–14:00

2C2-2 Time Series Analysis of Heart Beat R-R interval Based on A Generalized Hyper Gamma Distribution

T. Kadoya, Y. Uchiyama and H. Konno (University of Tsukuba)

Questioner: Y. Koya (Kobe City College of Technology)

14:00–14:25

2C2-3 Statistical Properties of Human Response Delay:
Analysis of Virtual Stick Balancing Experiments

T. Suzuki, T. Miyazawa, S. Kanemoto and I. Lubashevsky (University of Aizu)

Questioner: M. Ishikawa (Yamaguchi University)

Session: 2A3, 14:40–16:20, Room A

Applications in Engineering related to Stochastic Processes and Stochastic Systems II

Chair: Yoshitaka Matsuda (Saga University)

14:40–15:05

2A3–1 On the Stochasticity of a Machine Swing Equation Using Ito Differential
R. H. Hirpara and S. N. Sharma (National Institute of Technology, Surat)
Questioner: I. Lubashevsky (University of Aizu)

15:05–15:30

2A3–2 Statistical Properties of Car Following: Theory and Driving Simulator Experiments
H. Ando, I. Lubashevsky and A. Zgonnikov (University of Aizu)
Questioner: K. Oura (Kokushikan University)

15:30–15:55

2A3–3 Extraction of Motion Features during Hula-Hooping by Hierarchical Decomposition Analysis
K. Oura (Kokushikan University) and I. Hanazaki (Tokyo Denki University)
Questioner: D. Azimov (University of Hawai'i at Manoa)

15:55–16:20

2A3–4 Analytical Synthesis of Optimal Trajectory Control and Guidance Solutions with
Applications to Autonomous Systems
D. Azimov (University of Hawai'i at Manoa)
Questioner: S. N. Sharma (National Institute of Technology, Surat)

Session: 2B3, 14:40–16:20, Room B

System Identification and Parameter Estimation

Chair: Mieko Tanaka-Yamawaki (Tottori University)

14:40–15:05

2B3–1 Random Input Password for Personal Identification
M. Tanaka-Yamawaki (Tottori University) and Y. Tanaka (Being Co., Ltd.)
Questioner: not assigned

15:05–15:30

2B3–2 Linearization of Block-Oriented Nonlinear Systems
T. Katayama (Ritsumeikan University)
Questioner: not assigned

15:30–15:55

2B3–3 Identification of Unknown Parameters of Partially Observed Discrete-time Stochastic Systems
by Using a New Class of Pseudomeasurements
A. Tanikawa (Osaka Institute of Technology)
Questioner: K. Inoue (Kyushu Institute of Technology)

15:55–16:20

2B3–4 Model Validation Criteria for System Identification in the Time Domain
H. Muroi and S. Adachi (Keio University)
Questioner: S. Goto (Saga University)