

Schedule

December 9

Time	Events	Chair (Organization)
09:05-09:10	OPENING	Yoshifumi Nishio (Tokushima University)
09:10-10:40	Session: Communication Systems	Shintaro Arai (Kagawa National College of Technology)
10:50-11:20	Session: Invited Talk 1	Tadashi Tsubone (Nagaoka University of Technology)
11:20-12:32	Session: Bifurcation and Nonlinear Analysis	Tadashi Tsubone (Nagaoka University of Technology)
13:30-14:50	Poster Session	Hiroaki Kurokawa (Tokyo University of Technology)
14:50-15:20	Session: Invited Talk 2	Toshimichi Saito (Hosei University)
15:20-16:50	Session: Coupled Oscillators and Complex Networks	Toshimichi Saito (Hosei University)

December 10

Time	Events	Chair (Organization)
09:00-10:30	Session: Chaos and Control	Masahiro Wada (Konan University)
10:40-11:10	Session: Invited Talk 3	Mamoru Tanaka (Sophia University)
11:10-12:22	Session: Irregular Signals and Applications	Mamoru Tanaka (Sophia University)
13:20-14:50	Session: Optimization and Cellular Neural Networks	Hisato Fujisaka (Hiroshima City University)
15:00-15:30	Session: Invited Talk 4	Kenya Jinno (Nippon Institute of Technology)
15:30-16:24	Session: Simulation	Kenya Jinno (Nippon Institute of Technology)

Table of Contents

09AM1: Communication Systems

Date: December 9, 09:10-10:40

Room: Plaza 2F

Chair: Shintaro Arai (Kagawa National College of Technology)

09AM1-1 An Analysis of A Non-Coherent Delay-Locked Loop under Two-Path Multipath Fading Channels

Keisuke Nagata (Hiroshima City University), Hisato Fujisaka (Hiroshima City University), Takeshi Kamio (Hiroshima City University), Kazuhisa Haeiwa (Hiroshima City University)

09AM1-2 Radar and communication system using complete complementary code

Nobuaki Abe (Nippon Inst. of Tech.), Hiroshi Takase (Nippon Inst. of Tech.), Masanori Shinriki (Nippon Inst. of Tech.), Takefumi Hiraguri (Nippon Inst. of Tech.)

09AM1-3 Autonomous control method for networks of randomly distributed sensors

Naoyuki Hashimoto (Kagawa Univ.), Hiroyuki Kitajima (Kagawa Univ.)

09AM1-4 Proposal of Location Information Providing and Sensor Data Transmitting Scheme using ZigBee System

Takuya Sugishita (Nippon Inst. of Tech.), Hiroshi Takase (Nippon Inst. of Tech.), Takefumi Hiraguri (Nippon Inst. of Tech.)

09AM1-5 Novel Path Search Method Using Only Neighborhood Information For Ad-hoc Network

Takuma Nosaka (Sophia Univ.), Masatochi Sato (Sophia Univ.), Mamoru Tanaka (Sophia Univ.)

09AM2: Invited Talk 1

Date: December 9, 10:50-11:20

Room: Plaza 2F

Chair: Tadashi Tsubone (Nagaoka University of Technology)

09AM2-1 Bifurcation analysis of a cardiac mathematical model using GPU

Hiroyuki Kitajima (Kagawa Univ.), Masaya Hayashi (Kagawa Univ.), Toru Yazawa (Tokyo Metropolitan Univ.)

09AM3: Bifurcation and Nonlinear Analysis

Date: December 9, 11:20-12:32

Room: Plaza 2F

Chair: Tadashi Tsubone (Nagaoka University of Technology)

09AM3-1 Synthesis of Time Series Waveform by Covariance Structure Analysis

Yoshiyuki Kobori (Sophia University), Mamoru Tanaka (Sophia University)

09AM3-2 Bifurcation Phenomena of Lozi Map with Hysteresis Threshold

Kazutoshi Kinoshita (Tokushima Univ.), Tetsushi Ueta (Tokushima Univ.), Hiroshi Kawakami (JST), Jun-ichi Imura (Tokyo Tech.), Kazuyuki Aihara (Univ. of Tokyo)

09AM3-3 Bifurcation Phenomena in an Interrupted Dynamical System with Periodic Border

Kenichi Tasaki (Oita univ.), Takuji Kousaka (Oita univ.)

09AM3-4 Effect of Spike Noise in Buck-Boost Converter Operated in Discontinuous Conduction Mode

Daiki Tanaka (Oita Univ.), Hiroyuki Asahara (Oita Univ.), Takuji Kousaka (Oita Univ.)

09PM1: Poster Session

Date: December 9, 13:30-14:50

Room: Plaza 2F

Chair: Hiroaki Kurokawa (Tokyo University of Technology)

09PM1-1 Performance Evaluation of Boid PSO

Takuya Sekiguchi (Nippon Institute of Technology), Kenya Jin'no (Nippon Institute of Technology)

09PM1-2 Deterministic PSO-based Multiple optima search with Elite Preservation Strategy

Ryosuke Sano (Hosei Univ.), Kenya Jin'no (Nippon Institute of Technology), Toshimichi Saito (Hosei Univ.)

09PM1-3 Growing Ant Colony Optimization with Intelligent and Dull Ants and its Application to TSP

Sho Shimomura (Tokushima Univ.), Haruna Matsushita (Kagawa Univ.), Yoko Uwate (Tokushima Univ.), Yoshifumi Nishio (Tokushima Univ.)

09PM1-4 Sequential Learning of Binary Neural Networks based on Genetic Algorithm

Yuta Nakayama (Hosei Univ.), Ryo Ito (Hosei Univ.), Toshimichi Saito (Hosei Univ.)

09PM1-5 Multi-Layer Perceptron with Pulse Glial Chain for Solving Two-Spirals Problem

Chihiro Ikuta (Tokushima Univ.), Yoko Uwate (Tokushima Univ.), Yoshifumi Nishio (Tokushima Univ.)

09PM1-6 Composing Music from Network Motifs using Real Sound Synthesis of the Electric Guitar

Tetsuya Yukinari (Konan Univ.), Yuki Tanda (Konan Univ.), Masahiro Wada (Konan Univ.)

09PM1-7 Synchronization of Coupled Oscillators with Double Tetrahedrons as a Shared Triangular Face

Takahiro Nagai (Tokushima University), Hironori Kumeno (Tokushima University), Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University)

09PM1-8 Dynamic Behavior of the Electric Bouncing Ball

Jun Hosokawa (Oita Univ.), Hiroyuki Asahara (Oita Univ.), Takuji Kousaka (Oita Univ.)

09PM1-9 Generation of New Bifurcation Structure in an Interrupted Electric Circuit with Spike Noise

Akihito Matsuo (Oita Univ.), Hiroyuki Asahara (Oita Univ.), Takuji Kousaka (Oita Univ.)

09PM1-10 Chaotic Synchronization Phenomena of Forced Driven Double Pendulums using LEGO

Yuki Tanda (Konan Univ.), Tetsuya Yukinari (Konan Univ.), Masahiro Wada (Konan Univ.)

09PM2: Invited Talk 2

Date: December 9, 14:50-15:20

Room: Plaza 2F

Chair: Toshimichi Saito (Hosei University)

09PM2-1 Bifurcation of Quasi-Periodic Oscillations in Mutually-Coupled Hard Type Oscillators — Demonstration of Unstable Quasi-Periodic Orbits—

Kyohei Kamiyama (Meiji Univ.), Motomasa Komuro (Teikyo Univ. of Science), Tetsuro Endo (Meiji Univ.)

09PM3: Coupled Oscillators and Complex Networks

Date: December 9, 15:20-16:50

Room: Plaza 2F

Chair: Toshimichi Saito (Hosei University)

09PM3-1 Double-Mode Simultaneous Oscillation in Coupled Hard Oscillators

Saori Fujioka (Tokushima University), Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University)

09PM3-2 Synchronization Phenomenon in Four chains of Coupled Oscillators

Kosuke Matsumura (Tokushima Univ.), Takahiro Nagai (Tokushima Univ.), Yoko Uwate (Tokushima Univ.), Yoshifumi Nishio (Tokushima Univ.)

09PM3-3 Clustering Phenomena of Complex Chaotic Circuit Networks

Yuji Takamaru (Tokushima University), Hiroshige Kataoka (Tokushima University), Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University)

09PM3-4 Experimental Production of Chaos Pulse Generator for Low-frequency Electrical Therapy

Shintaro Suzuki (Nippon Institute of Technology), Takuya Shindo (Nippon Institute of Technology), Kenya Jin'no (Nippon Institute of Technology)

09PM3-5 Spatio-temporal Patterns of Coupled Chaotic Maps with Delays and Connection Topology

Hiroyuki Kowa (Konan Univ.), Masahiro Wada (Konan Univ.)

10AM1: Chaos and Control

Date: December 10, 09:00-10:30

Room: Plaza 2F

Chair: Masahiro Wada (Konan University)

10AM1-1 Stabilizing Unknown Steady States of Piecewise Linear Systems by Occasional Proportional Feedback based on Stability Transformation Method

Tadashi Tsubone (Nagaoka University of Technolo), Takumi Hasegawa (Nagaoka University of Technolo)

10AM1-2 Identification and control of unstable periodic points embedded in a horseshoe chaotic region

Takaya Nakanishi (Tokushima Univ.), Daisuke Ito (Tokushima Univ.), Tetsushi Ueta (Tokushima Univ.), Hiroshi Kawakami (JST), Jun'ichi Imura (Tokyo Tech), Kazuyuki Aihara (Univ. of Tokyo)

10AM1-3 Energy less controlling chaos

Daisuke Ito (Tokushima Univ.), Tetsushi Ueta (Tokushima Univ.)

10AM1-4 Analysis of Digital Spike Phase Maps

Narutoshi Horimoto (HOSEI Univ.), Takashi Ogawa (HOSEI Univ.), Toshimichi Saito (HOSEI Univ.)

10AM1-5 Characteristics of the A/D Converter based on a 1-D Map with a Flat Segment

Yusuke Matsuoka (Yonago National College of Tec)

10AM2: Invited Talk 3

Date: December 10, 10:40-11:10

Room: Plaza 2F

Chair: Mamoru Tanaka (Sophia University)

10AM2-1 Unexpected Result—Looking back on the study 30 years ago

Masanori Shinriki (Nippon Institute of Technology)

10AM3: Irregular Signals and Applications

Date: December 10, 11:10-12:22

Room: Plaza 2F

Chair: Mamoru Tanaka (Sophia University)

10AM3-1 Anti-Phase Synchronization of Switching Phenomena in Globally Coupled Chaotic Circuits without Parameter Mismatches

Takuya Nishimoto (Shikoku Univ.), Yasuteru Hosokawa (Shikoku Univ.), Yoshifumi Nishio (University of Tokushima)

10AM3-2 Bifurcation of Simple Spiking Neurons for Shape of Base Signals

Shota Kirikawa (HOSEI Univ.), Takashi Ogawa (HOSEI Univ.), Toshimichi Saito (HOSEI Univ.)

10AM3-3 Influence of an applied pulse voltage in a memristive circuit model

Toshiya Hatanaka (Chiba Inst. of Tech.), Kuniyasu Shimizu (Chiba Inst. of Tech.), Yutaka Haga (Chiba Inst. of Tech.)

10AM3-4 Analysis of Simple Stochastic Resonance with Various Noise Levels

Shota Ozaki (Kagawa National Coll. of Tech.), Shintaro Arai (Kagawa National Coll. of Tech.), Takaya Yamazato (Nagoya Univ.), Yoshifumi Nishio (Tokushima Univ.)

10PM1: Optimization and Cellular Neural Networks

Date: December 10, 13:20-14:50

Room: Plaza 2F

Chair: Hisato Fujisaka (Hiroshima City University)

10PM1-1 Influence of the solution search performance on the random number in PSO

Takuya Shindo (Nippon Institute of Technology), Kenya Jin'no (Nippon Institute of Technology)

10PM1-2 Dynamics of Deterministic Discrete Hysteresis PSO

Yu Shukuzawa (Nippon Institute of Technology), Kenya Jin'no (Nippon Institute of Technology)

10PM1-3 Classification Function of Radial Basis Adaptive Resonance Theory Maps

Yoko Enosawa (Hosei Univ.), Haruna Matsushita (Kagawa Univ.), Toshimichi Saito (Hosei Univ.)

10PM1-4 Research on Improvement of Two-Layer Cellular Neural Networks

Nurul Amirah binti Ramlan (Tokushima University), Yoshihiro Kato (Tokushima University), Yasuhiro Ueda (Tokushima University), Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University)

10PM1-5 Space-Varying Cellular Neural Networks with Fuzzy Inference and RGB Component

Yasuhiro Ueda (Tokushima University), Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University)

10PM2: Invited Talk 4

Date: December 10, 15:00-15:30

Room: Plaza 2F

Chair: Kenya Jinno (Nippon Institute of Technology)

10PM2-1 Analysis and design of class-E switching circuit for high-frequency high-efficiency applications

Xiuqin Wei (Chiba Univ.)

10PM3: Circuit Simulation

Date: December 10, 15:30-16:24

Room: Plaza 2F

Chair: Kenya Jinno (Nippon Institute of Technology)

10PM3-1 Steady-State Analysis of Class-E Amplifier Outside Nominal Operation for Wide Range of Parameters

Tomoharu Nagashima (Chiba Univ.), Xiuqin Wei (Chiba Univ.), Tadashi Suetsugu (Fukuoka Univ.), Hiroo Sekiya (Chiba Univ.)

10PM3-2 Spice-oriented Algorithm for Analysis of Coupled Oscillators

Hiroshige Kataoka (Tokushima Univ.), Yoko Uwate (Tokushima Univ.), Yoshihiro Yamagami (Tokushima Univ.), Yoshifumi Nishio (Tokushima Univ.)

10PM3-3 Performance Comparison of Fast Transient Simulation Techniques of Large RLC Networks with CMOS Loads

Yuichi Tanji (Kagawa University)

Author Index

A

Abe, Nobuaki: (09AM1-2)
Aihara, Kazuyuki: (09AM3-2), (10AM1-2)
Arai, Shintaro : (10AM3-4)
Asahara, Hiroyuki: (09AM3-4), (09PM1-8),
(09PM1-9)

E

Endo, Tetsuro: (09PM2-1)
Enosawa, Yoko: (10PM1-3)

F

Fujioka, Saori: (09PM3-1)
Fujisaka, Hisato: (09AM1-1)

H

Haeiwa, Kazuhisa: (09AM1-1)
Haga, Yutaka: (10AM3-3)
Hasegawa, Takumi: (10AM1-1)
Hashimoto, Naoyuki: (09AM1-3)
Hatanaka, Toshiya: (10AM3-3)
Hayashi, Masaya: (09AM2-1)
Hiraguri, Takefumi: (09AM1-2), (09AM1-4)
Horimoto, Narutoshi: (10AM1-4)
Hosokawa, Jun: (09PM1-8)
Hosokawa, Yasuteru: (10AM3-1)

I

Ikuta, Chihiro: (09PM1-5)
Imura, Jun'ichi: (10AM1-2)
Imura, Jun-ichi: (09AM3-2)
Ito, Daisuke: (10AM1-2), (10AM1-3)
Ito, Ryo: (09PM1-4)

J

Jin'no, Kenya: (09PM1-1), (09PM1-2), (09PM3-4),
(10PM1-1), (10PM1-2)

K

Kamio, Takeshi: (09AM1-1)
Kamiyama, Kyohei: (09PM2-1)
Kataoka, Hiroshige: (09PM3-3), (10PM3-2)
Kato, Yoshihiro: (10PM1-4)
Kawakami, Hiroshi: (09AM3-2), (10AM1-2)
Kinoshita, Kazutoshi: (09AM3-2)
Kirikawa, Shota: (10AM3-2)
Kitajima, Hiroyuki: (09AM1-3)
Kitajima, Hiroyuki : (09AM2-1)
Kobori, Yoshiyuki: (09AM3-1)
Komuro, Motomasa: (09PM2-1)
Kousaka, Takuji: (09AM3-3), (09AM3-4), (09PM1-8),
(09PM1-9)
Kowa, Hiroyuki: (09PM3-5)
Kumeno, Hironori: (09PM1-7)

M

Matsumura, Kosuke: (09PM3-2)
Matsuo, Akihito: (09PM1-9)
Matsuoka, Yusuke: (10AM1-5)
Matsushita, Haruna: (09PM1-3), (10PM1-3)

N

Nagai, Takahiro: (09PM1-7), (09PM3-2)
Nagashima, Tomoharu: (10PM3-1)
Nagata, Keisuke: (09AM1-1)
Nakanishi, Takaya: (10AM1-2)
Nakayama, Yuta: (09PM1-4)
Nishimoto, Takuya: (10AM3-1)
Nishio, Yoshifumi: (09PM1-3), (09PM1-5),
(09PM1-7), (09PM3-1), (09PM3-2),
(09PM3-3), (10AM3-1), (10PM1-4),
(10PM1-5), (10PM3-2)
Nishio, Yoshifumi : (10AM3-4)
Nosaka, Takuma: (09AM1-5)

O

Ogawa, Takashi: (10AM1-4), (10AM3-2)
Ozaki, Shota: (10AM3-4)

S

Saito, Toshimichi: (09PM1-2), (09PM1-4),
(10AM1-4), (10AM3-2), (10PM1-3)
Sano, Ryosuke: (09PM1-2)
Sato, Masatochi: (09AM1-5)
Sekiguchi, Takuya: (09PM1-1)
Sekiya, Hiroo: (10PM3-1)
Shimizu, Kuniyasu : (10AM3-3)
Shimomura, Sho: (09PM1-3)
Shindo, Takuya: (09PM3-4), (10PM1-1)
Shinriki, Masanori: (09AM1-2), (10AM2-1)
Shukuzawa, Yu: (10PM1-2)
Suetsugu, Tadashi: (10PM3-1)
Sugishita, Takuya: (09AM1-4)
Suzuki, Shintaro : (09PM3-4)

T

Takamaru, Yuji: (09PM3-3)
Takase, Hiroshi: (09AM1-2), (09AM1-4)
Tanaka, Daiki: (09AM3-4)
Tanaka, Mamoru: (09AM1-5), (09AM3-1)
Tanda, Yuki: (09PM1-6), (09PM1-10)
Tanji, Yuichi: (10PM3-3)
Tasaki, Kenichi: (09AM3-3)
Tsubone, Tadashi: (10AM1-1)

U

Ueda, Yasuhiro: (10PM1-4), (10PM1-5)
Ueta, Tetsushi: (09AM3-2), (10AM1-2), (10AM1-3)
Uwate, Yoko: (09PM1-3), (09PM1-5), (09PM1-7),
(09PM3-1), (09PM3-2), (09PM3-3),
(10PM1-4), (10PM1-5), (10PM3-2)

W

Wada, Masahiro: (09PM1-6), (09PM1-10),
(09PM3-5)
Wei, Xiuqin: (10PM2-1), (10PM3-1)

Y

Yamagami, Yoshihiro: (10PM3-2)
Yamazato, Takaya : (10AM3-4)
Yazawa, Toru: (09AM2-1)
Yukinari, Tetsuya: (09PM1-6), (09PM1-10)

b

binti Ramlan , Nurul Amirah : (10PM1-4)