

Session Schedule (Final program)

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March 1, 09:00–10:30	Bifurcation and Chaos 1AM1-1: Page 2	Learning System 1AM1-2: Page 2
March 1, 10:45–11:57	Bio-Signal Processing 1AM2-1: Page 3	Image Processing 1 1AM2-2: Page 3
March 1, 13:00–14:30	Complex Networks and Systems 1PM1-1: Page 4	Speech Signal Processing 1 1PM1-2: Page 4
March 1, 14:45–16:15	Nonlinear Circuits and Systems 1PM2-1: Page 5	Speech Signal Processing 2 1PM2-2: Page 5
March 1, 16:30–18:18	Special Session: Optimization Based on Dynamical Systems 1PM3-1: Page 6	Wireless Communications 1PM3-2: Page 7
March 2, 09:00–10:30	Fuzzy Systems and Optimization 2AM1-1: Page 7	Information Security and Spread Spectrum 2AM1-2: Page 8
March 2, 10:45–11:57	Estimation 2AM2-1: Page 8	Image Processing 2 2AM2-2: Page 9
March 2, 13:00–14:30	Circuit Design and Analysis 1 2PM1-1: Page 9	Image Processing 3 2PM1-2: Page 10
March 2, 14:45–16:15	Circuit Design and Analysis 2 2PM2-1: Page 10	Computer Vision 2PM2-2: Page 11
March 2, 16:30–17:42	Neural and Bio-inspired Network 2PM3-1: Page 11	Speech Signal Processing 3 2PM3-2: Page 12

All the workshop sessions are scheduled in JST.

1AM1-1: Bifurcation and Chaos

Date: March 1, 9:00–10:30

Room: Room1

Chair: Yuu Miino (Tokyo University of Technology)

1AM1-1-1 Secret Sharing Scheme using Chaotic Neural Network

Shunya Izumi (Tokushima University), Tetsushi Ueta (Tokushima University)

1AM1-1-2 Bifurcation analysis for EAD generation in a mathematical ventricular cell model

Ryosuke Fujiwara (Kagawa University), Hiroyuki Kitajima (Kagawa University)

1AM1-1-3 Simplification of a crustacean mathematical cardiac model and its bifurcation analysis

Daisuke Kondo (Kagawa University), Hiroyuki Kitajima (Kagawa University)

1AM1-1-4 Reconstruction of Dynamical System from Marked Point Process and its Application to Causality Detection

Kazuya Sawada (Tokyo University of Science), Yutaka Shimada (Saitama University), Tohru Ikeguchi (Tokyo University of Science)

1AM1-1-5 Discrimination of deterministic chaos and noisy periodicity by the recurrence plot with variable threshold

Shiki Kanamaru (Tokyo University of Science), Nina Sviridova (Tokyo University of Science), Yutaka Shimada (Saitama University), Tohru Ikeguchi (Tokyo University of Science)

1AM1-2: Learning System

Date: March 1, 9:00–10:30

Room: Room2

Chair: Takafumi Matsuura (Nippon Institute of Technology)

1AM1-2-1 A Visualization System of Program Behavior by Animations for Novice Learners

Takafumi Tanaka (Tamagawa University), Ikki Fujie (Tamagawa University), Yoshiki Kakara (Tamagawa University), Hiroaki Hashiura (Nippon Institute of Technology)

1AM1-2-2 Hardware Design of the Target Q-Network for Edge-oriented Deep Reinforcement Learning

Yoshiharu Yamagishi (Hokkaido University), Tatsuya Kaneko (Hokkaido University), Megumi Kasaya-Akai (Hokkaido University), Tetsuya Asai (Hokkaido University)

1AM1-2-3 A Novel Routing Method based on PIAOR Corresponding to the Natural Disaster for Content-oriented networks

Tsubasa Takaoka (Tamagawa University), Masatoshi Sato (Tamagawa University), Masakatsu Ogawa (Sophia University), Tsuyoshi Otake (Tamagawa University)

1AM1-2-4 Prototypes of a Low-Priced Classification Support System for Sweet Potatoes

Syunsuke Aoki (Shikoku University), Eisuke Takeda (Shikoku University), Yasuteru Hosokawa (Shikoku University)

1AM1-2-5 Adaptive noise cancellation of cerebellar circuits with threshold learning cells

Soichiro Yamada (Ritsumeikan University), Takeshi Kumaki (Ritsumeikan University), Takeshi Ogura (Ritsumeikan University), Tomohiro Fujita (Ritsumeikan University)

1AM2-1:Bio-Signal Processing

Date: March 1, 10:45–11:57

Room: Room1

Chair: Mio Kobayashi (NIT, Anan College)

1AM2-1-1 Simulation of Infectious Number of COVID-19 in JAPAN by Using SIR Model with Neural Networks

Aika Ohno (Tokushima University), Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University)

1AM2-1-2 Effects of Document Characteristics on Language Network Structure

Kihei Magishi (Tokyo University of Science), Tomoko Matsumoto (Tokyo University of Science), Yutaka Shimada (Saitama University), Tohru Ikeguchi (Tokyo University of Science)

1AM2-1-3 Applying a molecular device to stochastic computing operation for a hardware AI system design

Shaohua Kan (Hokkaido University), Yoshiaki Sasaki (Hokkaido University), Tetsuya Asai (Hokkaido University), Megumi Akai-Kasaya (Hokkaido University)

1AM2-1-4 Design and Trial Production of MEG Analysis Processor using FPGA

Yuki Anzai (Tokyo Denki University), Akihiko Tsukahara (Tokyo Denki University), Keita Tanaka (Tokyo Denki University)

1AM2-2:Image Processing 1

Date: March 1, 10:45–11:57

Room: Room2

Chair: Hidehiro Nakano (Tokyo City University)

1AM2-2-1 Accuracy and Speed Evaluation of Eye Blink Detection Algorithms via OpenCV and Dlib Libraries

Yuho Toku (Ritsumeikan University), Satoshi Ito (Ritsumeikan University), Tomoyasu Shimada (Ritsumeikan University), Hiroki Nishikawa (Ritsumeikan University), Xiangbo Kong (Ritsumeikan University), Hiroyuki Tomiyama (Ritsumeikan University)

1AM2-2-2 Universal Demosaicking via Predictive Filter Flow Network

Daiki Arai (Tamagawa University), Taishi Iriyama (Tamagawa University), Masatoshi Sato (Tamagawa University), Hisashi Aomori (Chukyo University), Tsuyoshi Otake (Tamagawa University)

1AM2-2-3 Super-resolution method for remote sensing images with adaptive selection of convolutional neural networks based on frequency analysis

Soichiro Terasaki (Kobe University), Nobutaka Kuroki (Kobe University), Masahiro Numa (Kobe University)

1AM2-2-4 A Fast MRI Reconstruction with Generative Adversarial Networks

Tan Zicong (Kyushu University), Yutaka Jitsumatsu (Kyushu University)

1PM1-1:Complex Networks and Systems

Date: March 1, 13:00–14:30

Room: Room1

Chair: Yoshitaka Itoh (Hokkaido University of Science)

1PM1-1-1 Influence of Contact Characteristics to Information Diffusion on Temporal Network

Xu Luyan (Tokyo University of Science), Sawada Kazuya (Tokyo University of Science), Shimada Yutaka (Saitama University), Ikeguchi Tohru (Tokyo University of Science)

1PM1-1-2 Memory Capacity and Dynamics in Simple Cycle Reservoir

Masahiko Sano (Tokyo Denki University), Masaharu Adachi (Tokyo Denki University)

1PM1-1-3 A Fundamental Property of Hysteresis Reservoir Computing

Tsukasa Saito (Tokyo City University), Kenya Jin'no (Tokyo City University)

1PM1-1-4 Trainer System for the Study of Hardware Artificial Neural Networks

Emiliano Jose Ali (Hokkaido University), Tetsuya Asai (Hokkaido University), Megumi Akai-Kasaya (Hokkaido University - Osaka University)

1PM1-1-5 Reservoir Computing on Atomic Switch Arrays with High Precision and Excellent Memory Characteristics

Hiroshi Kubota (Hokkaido University), Tsuyoshi Hasegawa (Waseda University), Megumi Akai-Kasaya (Hokkaido University), Tetsuya Asai (Hokkaido University)

1PM1-2:Speech Signal Processing 1

Date: March 1, 13:00–14:30

Room: Room2

Chair: Tetsuya Shimamura (Saitama University)

1PM1-2-1 VMInNet: Interpolation of Virtual Microphones in Optimal Latent Space Explored by Autoencoder

Riki Takahashi (University of Tsukuba), Li Li (University of Tsukuba), Shoji Makino (University of Tsukuba), Takeshi Yamada (University of Tsukuba)

1PM1-2-2 A Suggestion of Training Data Proliferation for Environmental Sound Classification with Variational Autoencoder

Zhang Yutao (Ritsumeikan University), Wakabayashi Yukoh (Tokyo Metropolitan University), Iwai Kenta (Ritsumeikan University), Nishiura Takanobu (Ritsumeikan University)

1PM1-2-3 Real-Time Pitch Visualization Using Sound-Light Conversion Device “Blinky”

Kanato Ishii (Tokyo Metropolitan University), Yuma Kinoshita (Tokyo Metropolitan University), Yukoh Wakabayashi

(Tokyo Metropolitan University), Nobutaka Ono (Tokyo Metropolitan University)

1PM1-2-4 Computational models of sharpness and fluctuation strength using loudness models composed of gammatone and gammachirp auditory filterbanks

Takuto Isoyama (JAIST), Shunsuke Kidani (JAIST), Masashi Unoki (JAIST)

1PM1-2-5 Single-Channel Speech Separation Based on Wavelet Transform and Deep Neural Network

Peng Chen (Ritsumeikan University), Kenta Iwai (Ritsumeikan University), Takanobu Nishiura (Ritsumeikan University)

1PM2-1: Nonlinear Circuits and Systems

Date: March 1, 14:45–16:15

Room: Room1

Chair: Xiuqin Wei (Chiba Institute of Technology)

1PM2-1-1 Estimating the Time Delay of the Dynamical System Considering the Geometry of the Attractor

Riki Watabe (Graduates School of Science and Technology, Meiji University), Koya Oyama (Graduates School of Science and Technology, Meiji University), Hiroyuki Kamata (Graduates School of Science and Technology, Meiji University)

1PM2-1-2 Analyzing Stable Solutions of 3×3 and 3×4 van der Pol Oscillators Coupled as a Torus Shape

Hikaru Onda (Hiroshima Institute of Technology), Masayuki Yamauchi (Hiroshima Institute of Technology)

1PM2-1-3 Analysis of a Simple DC-DC Converter Model with TEM

Shota Uchino (Okayama University of Science), Takuji Kousaka (Chukyo University), Hiroyuki Asahara (Okayama University of Science)

1PM2-1-4 Realization of Associative Memory by Oscillators Changing the Coupling Strength

Kohei Yamamoto (Tokushima University), Naoto Yonemoto (Tokushima University), Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University)

1PM2-1-5 Investigation of Nonlinear Characteristics of Oscillators Using Gyrator

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

1PM2-2: Speech Signal Processing 2

Date: March 1, 14:45–16:15

Room: Room2

Chair: Masashi Unoki (JAIST)

1PM2-2-1 Improved Accuracy of Frequency Estimation for Sinusoidal Signals Using Multiple Notch Filters

Takuya Kamada (Saitama University), Yosuke Sugiura (Saitama University), Nozomiko Yasui (Saitama University), Tetsuya Shimamura (Saitama University)

1PM2-2-2 METHOD OF ESTIMATING 3D DOA BASED ON MONAURAL MODULATION SPECTRUM

Rui Wang (Japan Advanced Institute of Science and Technology), Khanh Bui Nguyen (Japan Advanced Institute of Science and Technology), Daisuke Morikawa (Toyama Prefecture University), Masashi Unoki (Japan Advanced Institute of Science and Technology)

1PM2-2-3 Automatic music generation system based on LSTM networks using a high-dimensional encoder

Yanqiao Yan (Ritsumeikan University), Kenta Iwai (Ritsumeikan University), Takanobu Nishiura (Ritsumeikan University)

1PM2-2-4 Monitoring of Domestic Activities Using Multiple Beamformers and Attention Mechanism

Yuki Kaneko (University of Tsukuba), Takeshi Yamada (University of Tsukuba), Shoji Makino (University of Tsukuba)

1PM2-2-5 Single-channel Multi-speaker Separation via Discriminative Training of Variational Autoencoder Spectrogram Model

Naoya Murashima (University of Tsukuba)

1PM3-1: Special Session: Optimization Based on Dynamical Systems

Date: March 1, 16:30–18:18

Room: Room1

Chair: Yoshikazu Yamanaka (Utsunomiya University)

1PM3-1-1 Particle Swarm Optimization Introducing Team Discovery

Yuuki Tago (NIT, Suzuka College), Hayato Saiki (Tsukuba University), Chihiro Ikuta (NIT, Suzuka College)

1PM3-1-2 Parameter identification of IIR adaptive filters by piecewise-linear map optimizers

Yutaro Arai (Nagaoka University of Technology), Yasunori Sugita (Nagaoka University of Technology), Tadashi Tsubone (Nagaoka University of Technology)

1PM3-1-3 MOEA/D based synthesis of simple binary neural networks with clustering function

Kento Saka (HOSEI University), Tomoyuki Togawa (HOSEI University), Toshimichi Saito (HOSEI University)

1PM3-1-4 A Study of Small Drone Swarm Control by Swarm Intelligent Algorithm

Hiroto Kurosawa (Nippon Institute of Technology), Takuya Shindo (Nippon Institute of Technology), Takefumi Hiraguri (Nippon Institute of Technology)

1PM3-1-5 Basic Performance of a Deterministic PSO Algorithm by a Chaotic Spiking Oscillator Network

Hidehiro Nakano (Tokyo City University), Arata Miyauchi (Tokyo City University)

1PM3-1-6 Basic investigation of steady and transient searching behavior in particle swarm optimization

Yoshikazu Yamanaka (Utsunomiya University)

1PM3-2:Wireless Communications

Date: March 1, 16:30–18:18

Room: Room2

Chair: Shintaro Arai (Okayama University of Science)

1PM3-2-1 A Study on PPM-UWB Transmission in Interference Environments

Kensuke Tanaka (Meiji University), Tetsushi Ikegami (Meiji University)

1PM3-2-2 Implementation of Micropayment System Using IoT Devices

Ryota Nakada (Chiba University), Kien Nguyen (Chiba University), Hiroo Sekiya (Chiba University)

1PM3-2-3 Evaluating Congestion Control Algorithms of Raspberry Pi in Wi-Fi Network

Yuki Horie (Chiba University), Kien Nguyen (Chiba University), Hiroo Sekiya (Chiba University)

1PM3-2-4 Study on BER Performance of Synchronous OCDMA System Using Optical ZCZ Sequence With Diffused Link Using Rake Reception

Dai Ozaki (Yamaguchi University), Takahiro Matsumoto (Yamaguchi University), Hideyuki Torii (Kanagawa Institute of Technology), Yuta Ida (Yamaguchi University), Shinya Matsufuji (Yamaguchi University)

1PM3-2-5 Study on OCDMA System Using Two-Dimensional Optical ZCZ Sequences with Two Autocorrelation Peak Values

Ryosuke Shimizu (Yamaguchi University), Takahiro Matsumoto (Yamaguchi University), Hideyuki Torii (Kanagawa Institute of Technology), Yuta Ida (Yamaguchi University), Shinya Matsufuji (Yamaguchi University)

2AM1-1:Fuzzy Systems and Optimization

Date: March 2, 9:00–10:30

Room: Room1

Chair: Takuya Shindo (Nippon Institute of Technology)

2AM1-1-1 Kinetic Performances of Drive-saving four-legged robot using Spring-damper Mechanism

Hikaru Homma (Tokushima University), Hiroshi Suzuki (Tokushima University), Akinobu Kuwahara (Tokushima University), Takahiro Kitajima (Tokushima University), Takashi Yasuno (Tokushima University)

2AM1-1-2 Generation of Jumping Motions for Biped Robots Using CPG Networks Tuned by Firefly Algorithm

Tatsuki Murakami (Tokushima University), Hiroshi Suzuki (Tokushima University), Akinobu Kuwahara (Tokushima University), Takahiro Kitajima (Tokushima University), Takashi Yasuno (Tokushima University)

2AM1-1-3 Dynamics Simulation of Two-Arch Structure of Foot for Biped Robots

Akinori Sekiguchi (Tokyo University of Technology), Hiroaki Kurokawa (Tokyo University of Technology)

2AM1-1-4 A Method for Searching Edge Candidates of TSP

Masayoshi Tosa (Tokyo University of Science), Nanfu Miya (Tokyo University of Science), Honami Tsushima (Tokyo University of Science), Tohru Ikeguchi (Tokyo University of Science)

2AM1-1-5 An Artificial Bee Colony Algorithm for The Vehicle Routing Problem with Occasional Drivers

Kazsushi Hachisuka (Nippon Institute of Technology), Takafumi Matsuura (Nippon Institute of Technology)

2AM1-2:Information Security and Spread Spectrum

Date: March 2, 9:00–10:30

Room: Room2

Chair: Kien Nguyen (Chiba University)

2AM1-2-1 Adapting Generating Method for Imperceptibility Adversarial Examples

Fuminori Mizutani (Meijo University), Shu Takemoto (Meijo University), Yusuke Nozaki (Meijo University), Masaya Yoshikawa (Meijo University)

2AM1-2-2 Detection Evaluation for Netlist of Secure Cryptographic Module with Malicious Circuit

Shu Takemoto (Meijo University), Fuminori Mizutani (Meijo University), Yoshiya Ikezaki (Meijo University), Yusuke Nozaki (Meijo University), Masaya Yoshikawa (Meijo University)

2AM1-2-3 Performance Evaluation of DS-CDMA IVC Based on Location-Oriented Code Allocation and Performance Improvement Using SIC in Urban Environment

Shinnosuke Iino (Tokyo University of Science), Makoto Itami (Tokyo University of Science)

2AM1-2-4 Packet drop probability with an exponential characteristic in TCP/RED

Kaito Kato (Chukyo University), Hideyuki Kato (Oita University), Daisuke Ito (Gifu University), Takuji Kousaka (Chukyo University)

2AM1-2-5 Graph Spread Code Generation Method Based on Smear Transform

Atsuya Tokunaga (Ehime University), Kazuki Hasegawa (Ehime University), Toshiyuki Uto (Ehime University)

2AM2-1:Estimation

Date: March 2, 10:45–11:57

Room: Room1

Chair: Yoko Uwate (Tokushima University)

2AM2-1-1 A Novel Interpolation Method Using Graph Signal Processing for Accelerated Nuclear Magnetic Resonance Spectroscopy

Yuhō Tanaka (Tokyo Denki University), Kazunori Uruma (Kogakuin University), Tomoki Nakao (JEOL RESONANCE Inc.)

2AM2-1-2 A Note on Computer Programming in Complex Space for Simultaneous Experiments

Yoshifumi Ukita (Yokohama College of Commerce)

2AM2-1-3 Low Complexity Algorithm for Tracking Multiple Vehicles Using Radar Irradiation Angle Estimation

Yuto Sawamura (Saitama University), Yosuke Sugiura (Saitama University), Tetsuya Shimamura (Saitama University),

Nozomiko Yasui (Saitama University)

2AM2-1-4 A Proposal for a Noise Reduction Method Focusing on Spectral Envelopment and Fine Structure of Speech

Taichi Fukawa (Tokyo City University), Kenya Jin'no (Tokyo City University)

2AM2-2:Image Processing 2

Date: March 2, 10:45–11:57

Room: Room2

Chair: Taishi Iriyama (Tamagawa University)

2AM2-2-1 Classification of chaos and noise using convolution neural network

Ryota Fukutomi (Kagawa University), Hiroyuki Kitajima (Kagawa University)

2AM2-2-2 Tomato Recognition Algorithm and Grasping Mechanism for Automation of Tomato Harvesting in Facility Cultivation

Suguru Uramoto (Tokushima University), Hiroshi Suzuki (Tokushima University), Akinobu Kuwahara (Tokushima University), Takahiro Kitajima (Tokushima University), Takashi Yasuno (Tokushima University)

2AM2-2-3 Object Tracking Based on Image Feature Extraction and Optical Flow Using In-vehicle Monocular Camera Image

Tatsuro Funai (Tokushima University), Hiroshi Suzuki (Tokushima University), Akinobu Kuwahara (Tokushima University), Takahiro Kitajima (Tokushima University), Takashi Yasuno (Tokushima University)

2AM2-2-4 Detection of Component Information for Inspection of Architectural Drawing

Hironori Kumeno (National Institute of Technology, Niihama College), Momoki Shiraoka (National Institute of Technology, Niihama College), Daisuke Tanaka (National Institute of Technology, Niihama College)

2PM1-1:Circuit Design and Analysis 1

Date: March 2, 13:00–14:30

Room: Room1

Chair: Daisuke Ito (Gifu University)

2PM1-1-1 Switches for a Word-Line Less Memory

Kosuke Katayama (Waseda University), Takaaki Baba (Waseda University), Takashi Ohsawa (Waseda University)

2PM1-1-2 FPGA Implementations of Reservoir Computing with ITCAM

Go Ajiki (Ritsumeikan University), Takeshi Kumaki (Ritsumeikan University)

2PM1-1-3 Floating-point arithmetic of content addressable memory-based massive-parallel SIMD matrix core

Kyosuke Kageyama (Ritsumeikan Univ.), Akimitsu Hamai (Ritsumeikan Univ.), Kensuke Watanabe (Ritsumeikan Univ.), Tetsushi Koide (Hiroshima Univ.), Takeshi Kumaki (Ritsumeikan Univ.)

2PM1-1-4 Design of 6.78 MHz Class-EF₂ Oscillator

Masahiro Yamazaki (Chiba Institute of Technology), Xiuqin Wei (Chiba Institute of Technology), Weisen Luo (Chiba Institute of Technology), Yusuke Hagiwara (Chiba Institute of Technology), Kisara Nakajima (Chiba Institute of Technology)

2PM1-1-5 Analysis Procedure of Class- Φ^2 Wireless Power Transfer System

Weisen Luo (Chiba Institute of Technology), Kisara Nakajima (Chiba Institute of Technology), Ryosuke Hagiwara (Chiba Institute of Technology), Masahiro Yamazaki (Chiba Institute of Technology), Xiuqin Wei (Chiba Institute of Technology)

2PM1-2:Image Processing 3

Date: March 2, 13:00–14:30

Room: Room2

Chair: Hiroyuki Kitajima (Kagawa University)

2PM1-2-1 IMAS-GAN: Unsupervised Domain Translation without Cycle Consistency

Masashi Okada (Tokyo City University), Hidehiro Nakano (Tokyo City University), Arata Miyauchi (Tokyo City University)

2PM1-2-2 Evaluation of Meteorological Satellite Image Prediction Using Retrospective CycleGAN Based on Optical Flow Method

Yasufumi Wakita (Tokushima University), Hiroshi Suzuki (Tokushima University), Takahiro Kitajima (Tokushima University), Takashi Yasuno (Tokushima University)

2PM1-2-3 Reversible data hiding with embedding in connectivity data for encrypted 3D models

Yuki Yamada (Ehime University), Kazuki Hasegawa (Ehime University), Toshiyuki Uto (Ehime University)

2PM1-2-4 A Low-power Security Camera System Using OpenCV and YOLO

Eiji Sugahara (Ritsumeikan University), Hiroki Nishikawa (Ritsumeikan University), Takuya Egashira (Ritsumeikan University), Xiangbo Kong (Ritsumeikan University), Hiroyuki Tomiyama (Ritsumeikan University)

2PM1-2-5 Deep Demosaicking with Individual Estimation of Luminance and Chrominance Components

Taishi Iriyama (Tamagawa University), Masatoshi Sato (Tamagawa University), Hisashi Aomori (Chukyo University), Tsuyoshi Otake (Tamagawa University)

2PM2-1:Circuit Design and Analysis 2

Date: March 2, 14:45–16:15

Room: Room1

Chair: Yasuteru Hosokawa (Shikoku University)

2PM2-1-1 Design of Class-EF² Wireless Power Transfer System

Kisara Nakajima (Chiba institute of technology), Yusuke Hagiwara (Chiba institute of technology), Masahiro Yamazaki (Chiba institute of technology), Weisen Luo (Chiba institute of technology), Xiuqin Wei (Chiba institute of technology)

2PM2-1-2 Analysis and Design of Load-Independent ZCS Parallel-Resonant Inverter

Ayano Komanaka (Chiba University), Wenqi Zhu (Chiba University), Xiuqin Wei (Chiba Institute of Technology), Kien Nguyen (Chiba University), Hiroo Sekiya (Chiba University)

2PM2-1-3 Development of Accurate System for Measuring Position of Pneumatic Cylinder with Low-Cost Cylinder Sensors

Satoshi Himura (NIT, Anan College), Takaya Ozaki (NIT, Anan College), Mio Kobayashi (NIT, Anan College)

2PM2-1-4 Investigation of road surface condition sharing system based on human sensation using RTK-GPS and acceleration sensor

Masaki Ogawa (Graduate School of Kanagawa Institute of Technology), Yuusuke Kawakita (Graduate School of Kanagawa Institute of Technology), Tadashi Yoshidome (Graduate School of Kanagawa Institute of Technology), Hiroshi Tanaka (Graduate School of Kanagawa Institute of Technology)

2PM2-1-5 Comparison between Performances of Rotation Angle Measurement Devices with Semi-circle PSI or with Polygonal PSI

Taisei Yasuda (Hiroshima Institute of Technology), Keito Ohshita (Hiroshima Institute of Technology), Mizuki Mantani (Hiroshima Institute of Technology), Masayuki Yamauchi (Hiroshima Institute of Technology)

2PM2-2:Computer Vision

Date: March 2, 14:45–16:15

Room: Room2

Chair: Masatoshi Sato (Tamagawa University)

2PM2-2-1 Detecting and Counting People without Mask with Deep Neural Network

Bowen Zhang (Konan University), Masahiro Tanaka (Konan University)

2PM2-2-2 Interpolation of OpenPose Data using SVR

Haruka Oka (Tokyo City University), Kenya Jin'no (Tokyo City University)

2PM2-2-3 Improvement of Japanese Fingerspelling Identification Rate by MIM

Masanao Yasumuro (Tokyo City University), Kenya Jin'no (Tokyo City University)

2PM2-2-4 Improvement of Detection Rate Using Preprocessed Infrared Images

Wanyin Shi (Ritsumeikan University), Hiroki Nishikawa (Ritsumeikan University), Xiangbo Kong (Ritsumeikan University), Hiroyuki Tomiyama (Ritsumeikan University)

2PM2-2-5 A Dynamic Path Planning Method for Multirotor Using Depth Images in AirSim

Tomoyasu Shimada (Ritsumeikan University), Hiroki Nishikawa (Ritsumeikan University), Xiangbo Kong (Ritsumeikan University), Hiroyuki Tomiyama (Ritsumeikan University)

2PM3-1:Neural and Bio-inspired Network

Date: March 2, 16:30–17:42

Room: Room1

Chair: Chihiro Ikuta (NIT, Suzuka College)

2PM3-1-1 Improvement on Performance of Recurrent Neural Network through Initializing of Input and Output Structures Similar to Partial Connection

Toshikazu Samura (Yamaguchi University), Tomohiro Fusauchi (Yamaguchi University)

2PM3-1-2 Relationship between Success Rate of Bifurcation Diagrams Reconstruction and Synaptic Weight Vectors of Predictor

Arata Itaki (Tokyo Denki University), Yoshitaka Itoh (Hokkaido University of Science), Masaharu Adachi (Tokyo Denki University)

2PM3-1-3 Influences of the Image Quality Differences for a Sweet Potato Classification

Ayumu Takahashi (Shikoku University), Eisuke Takeda (Shikoku University), Yasuteru Hosokawa (Shikoku University)

2PM3-1-4 Analysis of simple digital dynamical systems and its application

Hotaka Udagawa (Hosei University), Yuken Kijima (Hosei University), Toshimichi Saito (Hosei University)

2PM3-2:Speech Signal Processing 3

Date: March 2, 16:30–17:42

Room: Room2

Chair: Takanobu Nishiura (Ritsumeikan University)

2PM3-2-1 Voice Activity Detection for Speech Dialog Recorded by Two Distributed Microphones Towards Diagnosis of Autism Spectrum Disorder

Hideto Kawauchi (Tokyo Metropolitan University), Yukoh Wakabayashi (Tokyo Metropolitan University), Nobutaka Ono (Tokyo Metropolitan University), Keiko Ochi (Tokyo University of Technology), Keiho Owada (The University of Tokyo), Masaki Kojima (The University of Tokyo), Shigeki Sagayama (The University of Tokyo), Hidenori Yamasue (Hamamatsu University School of Medicine)

2PM3-2-2 FPGA Implementation of Echo State Network with Time-Switched Multi-Frame Layer for Discrete Speech Recognition

Dien Phuc Hoang (Renesas Design Vietnam Co., Ltd.), Yoshihiko Horio (Tohoku University)

2PM3-2-3 Multi-angle Audio-Visual Speech Recognition

Shinnosuke Isobe (Gifu University), Satoshi Tamura (Gifu University), Satoru Hayamizu (Gifu University), Yuuto Gotoh (Ricoh Company), Masaki Nose (Ricoh Company)

2PM3-2-4 Study on laughter detection based on auditory attributes

Soichiro Tanaka (JAIST), Shota Morita (Fukuyama University), Masashi Unoki (JAIST)