Session Schedule (Tentative)

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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 Recognition 1 1PM1-2: Page 4
March 1, 14:45–16:15	Nonlinear Circuits and Systems 1PM2-1: Page 5	Speech Recognition 2 1PM2-2: Page 5
March 1, 16:30–18:18	Nonlinear Circuits and Systems 1PM3-1: Page 6	Wireless Communications 1PM3-2: Page 6
March 2, 09:00–10:30	Fuzzy Systems and Optimization 2AM1-1: Page 7	Information Security and Spread Spectrum 2AM1-2: Page 7
March 2, 10:45–11:57	Estimation 2AM2-1: Page 8	Image Processing 2 2AM2-2: Page 8
March 2, 13:00–14:30	Circuit Design and Analysis 1 2PM1-1: Page 9	Image Processing 3 2PM1-2: Page 9
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 Recognition 3 2PM3-2: Page 11

1AM1-1: Bifurcation and Chaos

Date: March 1, 9:00–10:30
Room: Room1

1AM1-1-1 **Shecret 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

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

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

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

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 Recognition 1

Date: March 1, 13:00–14:30
Room: Room2

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

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 Sience)

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 Recognition 2

Date: March 1, 14:45–16:15
Room: Room2

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 Prefectural 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 (Uniersity of Tsukuba) , Takeshi Yamada (Uniersity of Tsukuba) , Shoji Makino (Uniersity 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

Date: March 1, 16:30–18:18
Room: Room1

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

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 Matsufiji (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

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

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

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

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

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

Yuho 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

| 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

`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-EF$_2$ 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

`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)

2PM1-2: Circuit Design and Analysis 2

Date: March 2, 14:45–16:15
Room: Room1

2PM1-2-1 **Design of Class-EF^2 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)

2PM1-2-2 **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)

2PM1-2-3 **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)

2PM1-2-4 **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)

2PM1-2-5 **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

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 Jinno (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

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 Recognition 3

Date: March 2, 16:30–17:42
Room: Room2

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)