

Technical Programs  
講演プログラム

## Day 1 (Wed, Oct 24th)

**14:00-16:30 Tutorial 1: Yutaka Matsuo Lab (The University of Tokyo)**

**Chair: Kenji Doya (Okinawa Institute of Science and Technology)**

T-1: Deep Learning and Intelligence: Neuro-perspective and Recent Trends

P.4

**17:00-19:00 Tutorial 2: Yukiyasu Kamitani (Kyoto University and ATR Computational Neuroscience Lab.)**

**Chair: Hiromichi Tsukada (Okinawa Institute of Science and Technology)**

T-2: Brain-DNN Homology and its Applications

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**17:00-19:00 Tutorial 3: Tetsuya Ogata (Waseda University and AIST)**

**Chair: Jun Tani (Okinawa Institute of Science and Technology)**

T-3: Deep Neural Models for Robot Systems based on Predictive Learning

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## Day 2 (Thu, Oct 25th)

### 10:10-11:10 Keynote Lecture 1: Shun-ichi Amari (RIKEN Center for Brain Science)

**Chair: Jun Tani (Okinawa Institute of Science and Technology)**

K-1: Statistical Neurodynamics of Deep Networks: Signal Transformations and Fisher Information P.2

### 11:10-12:30 Oral Session 1

**Chair: Tetsuya Ogata (Waseda University)**

O1-1: Characteristic Whisker Movements Reflect the Internal State of Mice Related to Reward Anticipation P.22  
Kota Mizutani (Osaka University, Nagoya University)\*; Junpei Ozaki (Nara Institute of Science and Technology);  
Junichiro Yoshimoto (Nara Institute of Science and Technology); Takayuki Yamashita (Nagoya University)

O1-2: Humans Achieve Bayesian Optimality in Controlling Risk-Return Tradeoff of Coincident Timing Task P.24  
Qirui Yao (University of Electro-Communications)\*; Yutaka Sakaguchi (University of Electro-Communications)

O1-3: Estimating synaptic connections from parallel spike trains P.26  
Ryota Kobayashi (National Institute of Informatics)\*; Shuhei Kurita (Kyoto University); Masanori Kitano (Ritsumeikan University); Kenji Mizuseki (Osaka City University); Barry J. Richmond (NIMH/NIH/DHHS); Shigeru Shinomoto (Kyoto University)

O1-4: Explaining Behavioral Data of Visual Material Discrimination with a Neural Network for Natural Image Recognition P.28  
Takuya Koumura (NTT Communication Science Laboratories)\*; Masataka Sawayama (NTT Communication Science Laboratories); Shin'ya Nishida (NTT Communication Science Laboratories)

### 13:30-15:00 Symposium 1: Symbol Emergence in Robotics

**Chair: Tadahiro Taniguchi (Ritsumeikan University)**

S1-1: Toward cognitive architecture for symbol emergence in robotics: convergence of probabilistic generative models and deep learning P.7  
Tadahiro Taniguchi (Organizer, Ritsumeikan Univ.)

S1-2: Neural Models for Linguistic and Behavioral Integration Learning in Robots P.8  
Tetsuya Ogata (Waseda Univ. and AIST)

S1-3: Multimodal Categorization via Deep Neural Networks P.9  
Takayuki Nagai (The University of Electro-Communications)\*; Tatsuya Aoki (The University of Electro-Communications)

### 15:20-16:10 Poster Flash talk & 16:10-18:00 Poster session 1

**Chair: Takashi Sato (NIT, Okinawa College)**

P1-1: Comparison of Network-Level Fluctuations in Modeled and Empirical Human Brain Functional Connectivity P.42  
Makoto Fukushima (NICT)\*; Olaf Sporns (Indiana University)

P1-2: Leveraging Uncertainty to Robustify Deep Learning Algorithms P.44  
Matthew J Holland (Osaka University)\*

P1-3: Data Combination for Landslide Detection Using Convolutional Neural Network from Single-polarization SAR Images after Disaster P.46  
Ryuta Katsuki (Yamaguchi University)\*; Toshikazu Samura (Yamaguchi University)

P1-4: Adaptive Detrending for Accelerating the Training of Convolutional Recurrent Neural Networks P.48  
Minju Jung (Korea Advanced Institute of Science and Technology); Jun Tani (Okinawa Institute of Science and Technology)\*

P1-5: An Investigation of Incremental Learning as a Temporal Feature Extraction P.50  
Shoya Matsumori (Keio University)\*; Yuki Abe (Keio University); Masahiko Osawa (Keio University / Dwango AI Laboratory); Michita Imai (Keio University)

P1-6: Multisensory Control: Behavioural and Neural Interactions P.52  
Wen Wen (University College London)\*; Patrick Haggard (University College London)

P1-7: Improving Exploration in Reinforcement Learning with Temporally Correlated Stochasticity Dongqi Han (Okinawa Institute of Science and Technology)*	P.54
P1-8: Development of a Monkey-Scale Artificial Cerebellum with Online Learning Capability and its simulation on Supercomputer Gyoukou Wataru Furusho (The University of Electro-Communications)*; Tadashi Yamazaki (The University of Electro-Communications)	P.56
P1-9: Looking at Internal Network Representations: An Indicator for Generalization Capability Anja Philippsen (National Institute of Information and Communications Technology (NICT))*; Yukie Nagai (National Institute of Information and Communications Technology)	P.58
P1-10: High-Performance Simulation of a Cerebellar Network Model using Monet Simulator on K Computer Tadashi Yamazaki (The University of Electro-Communications); Hiroshi Yamaura (The University of Electro-Communications)*; Jun Igarashi (RIKEN)	P.60
P1-11: Dynamic NOOP Insertion Improves Performance of Pre-trained Deep Reinforcement Learning Model Takuma Seno (Keio University)*; Masahiko Osawa (Keio University / Dwango AI Laboratory); Michita Imai (Keio University)	P.62
P1-12: A Computational Model for Accurate Movements in the Cerebellum Hiroshi Yamaura (The University of Electro-Communications)*; Tadashi Yamazaki (The University of Electro-Communications)	P.64
P1-13: Image Generation from Sound using a Multimodal Feature and GAN JEONGHYUN LYU (Center for Information and Neural Networks (CiNet), National Institute of Information and Communications Technology (NICT))*; Kaoru Amano (Center for Information and Neural Networks (CiNet), National Institute of Information and Communications Technology (NICT)); Takashi Shinozaki (NICT CiNet)	P.66
P1-14: Reservoir Computing with Coupled Stuart-Landau Oscillators Shouya Nakajima (Future University Hakodate)*; Yuichi Katori (Future University Hakodate/The University of Tokyo)	P.68
P1-15: Empirical Mode Decomposition for Improved EEG Signal Classification with Convolutional Neural Network in Brain-Computer Interface Experiments Kahoko Takahashi (Yokohama City University)*; Zhe Sun (RIKEN Brain Science Institute), Jordi Sol-Casals (University of Vic - Central University of Catalonia); Andrzej Cichocki (Skolkowo Institute of Science and Technology), Anh Huy Phan (Skolkowo Institute of Science and Technology); Ruggero Micheletto (Yokohama City University)	P.70
P1-16: Sensitivities of Walking Speed Adjustment and Self-motion Velocity Perception Commonly Decrease for Dense Optic Flow Shinya Takamuku (NTT communication science labs.)*; Hiroaki Gomi (NTT communication science labs.)	P.72
P1-17: An Inquiry into Experience Replay Sampling in Deep Reinforcement Learning Renzo Tan (Ateneo de Manila University); Nishanth Koganti (Nara Institute of Science and Technology)*; Kazushi Ikeda (Nara Institute of Science and Technology)	P.74
P1-18: Computational Modeling of Spontaneous Firing Patterns Generated by Single Autaptic Neurons Kouhei K Hattori (Waseda University)*; Takeshi Hayakawa (Tohoku University); Akira Nakanishi (Waseda University); Mihoko Ishida (Waseda University); Hideaki Yamamoto (Tohoku University); Ayumi Hirano-Iwata (Tohoku University); Takashi Tanii (Waseda University)	P.76
P1-19: Transition between Periodic Orbits and Fixed Points in Dynamic Binary Neural Networks Yuki Kawamura (Hosei University)*; Syunsuke Aoki (Hosei University); Toshimichi Saito (Hosei University)	P.78
P1-20: Initial Constraint on Structure of Recurrent Neural Network for Improvement of Time Series Prediction Tomohiro Fusauchi (Yamaguchi University)*; Toshikazu Samura (Yamaguchi University)	P.80

P1-21: Perception of Synchronization between Music and Body Movements in Radio Calisthenics Akira Takehana (The University of Electro-Communications)*; Tsukasa Uehara (University of Electro-Communications); Yutaka Sakaguchi (University of Electro-Communications)	P.82
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P1-24: A Simple Learning Algorithm of 3-Layer Dynamic Binary Neural Networks Seitaro Koyama (HOSEI University)*; Shunsuke Aoki (HOSEI University); Toshimichi Saito (HOSEI University)	P.88
P1-25: A Control Hierarchy Inspired by the Spinal Cord to Exploit Self-Organizing Motion Primitives for Purposeful Trajectory Generation Benedikt Feldotto (Technical University of Munich)*; Markus Orpana (University of Glasgow); Alois Knoll (Robotics and Embedded Systems)	P.90
P1-26: Influence of the moving virtual sound presentation on the auditory Brain-Computer Interface Yuki Onodera (Nagaoka University of Technology)*; Isao Nambu (Nagaoka University of Technology); Yasuhiro Wada (Nagaoka University of Technology)	P.92
P1-27: Decoding the Movement Difficulty from Electroencehalogram before Arm Movements Tomoki Semoto (Nagaoka University of Technology)*; Isao Nambu (Nagaoka University of Technology); Yasuhiro Wada (Nagaoka University of Technology)	P.94
P1-28: Generation of Artificial fNIRS Data using Generative Adversarial Networks Tomoyuki Nagasawa (Nagaoka University of Technology)*; Takanori Sato (Nagaoka University of Technology); Isao Nambu (Nagaoka University of Technology); Yasuhiro Wada (Nagaoka University of Technology)	P.96
P1-29: Convolutional Auto-encoder for Resting-state Functional MRI Yuki Hashimoto (The University of Tokyo)*; Yuichi Yamashita (National Center of Neurology and Psychiatry)	P.98
P1-30: Emulation Learning from Pioneers Moto Shinriki (Tokyo Denki University)*; Yu Kono (Tokyo Denki University); Tatsuji Takahashi (Tokyo Denki University)	P.100
P1-31: Deep Q-network regularized by Adversarial Examples Wataru Sasaki (Kyoto University)*; Yuji Yasui (Honda R&D Co. Ltd); Kosuke Nakanishi (Honda R&D Co. Ltd) Shin Ishii (Kyoto University)	P.102
P1-32: A Hippocampal Model of Rapid Statistical Learning Masataka Nakayama (Carnegie Mellon University)*; David C. Plaut (Carnegie Mellon University)	P.104
P1-33: Exploring Precursors of Parkinson's Disease by Characterizing Dynamic Postural Balance in Center-of-Pressure Time Series Takuma Torii (JAIST)*; Shohei Hidaka (JAIST); Tsutomu Fujinami (JAIST)	P.106
P1-34: Can Readers Recognize Unit of Summarization for Reading?: An Analysis of Text Segmentation Task Miho Fuyama (Japan Advanced Institute of Science and Technology)*; Shohei Hidaka (Japan Advanced Institute of Science and Technology)	P.108
P1-35: Visualization Method of Data-Sources' Viewpoint from Datasets Obtained by Various Data-Sources Hideaki Ishibashi (The Institute of Statistical Mathematics)*	P.110

## Day 3 (Fri, Oct 26th)

### 9:40-10:40 Keynote Lecture 2: Maneesh Sahani (Gatsby Computational Neuroscience Unit, UCL)

Chair: Kenji Doya (Okinawa Institute of Science and Technology)

K-2: Computing with distributed distributional codes: convergent inference in brains and machines? P.3

### 11:00-12:00 Oral Session 2

Chair: Kazushi Ikeda (Nara Institute of Science and Technology)

O2-1: Visuomotor Associative Learning under the Predictive Coding Framework: a Neuro-robotics Experiment P.30  
Jungsik Hwang (Okinawa Institute of Science and Technology)\*; Jun Tani (Okinawa Institute of Science and Technology Graduate University)

O2-2: Measuring the Convolution Neural Network similarities trained with different dataset using SVCCA P.32  
Toya Teramoto (University of Electro-Communications)\*; Hayaru Shouno (Graduate School of Informatics and Engineering, The University of Electro-Communications)

O2-3: Hierarchical Competitive Learning in Convolutional Neural Networks P.34  
Takashi Shinozaki (NICT CiNet)\*

### 14:00-15:30 Symposium 2: Whole-Brain Architecture

Chair: Hiroshi Yamakawa (Dwango)

S2-1: Strategy to Build Beneficial General-Purpose Intelligence Inspired by Brain P.10  
Hiroshi Yamakawa (Organizer, Dwango)\*; Yutaka Matsuo (The University of Tokyo); Koichi Takahashi (RIKEN QBiC); Naoya Arakawa (The Whole Brain Architecture Initiative)

S2-2: BriCA Kernel: Cognitive Computing Platform for Large-scale Distributed Memory Environments P.11  
Kotone Itaya (RIKEN BDR/Keio University/ Dwango/Whole Brain Architecture Initiative)\*; Hiroshi Yamakawa (Dwango/Whole Brain Architecture Initiative); Masaru Tomita (Keio University); Koichi Takahashi (RIKEN BDR/Keio University/ Dwango/Whole Brain Architecture Initiative)

S2-3: Development of Biologically Inspired Artificial General Intelligence Navigated by Circuits Associated with Tasks P.13  
Masahiko Osawa (Keio University / Dwango AI Laboratory)\*; Kotaro Mizuta (Kyoto University); Hiroshi Yamakawa (Dwango); Yasunori Hayashi (Kyoto University); Michita Imai (Keio University)

S2-4: Do top-down predictions of time series lead to sparse disentanglement? P.15  
Kosuke Miyoshi (Dwango Artificial Intelligence Laboratory, narrative nights inc.)\*; Naoya Arakawa (The Whole Brain Architecture Initiative); Hiroshi Yamakawa (Dwango)

S2-5: Visualization of Morphism Tuples of Equivalence Structures P.17  
Seiya Satoh (National Institute of Advanced Industrial Science and Technology)\*; Hiroshi Yamakawa (Dwango)

### 15:50-16:40 Poster Flash talk & 16:40-18:40 Poster session 1

Chair: Ryuta Miyata (University of the Ryukyus)

P2-1: Unsupervised Area Segmentation of Mouse Auditory Cortex based on Responses to Naturalistic Complex Sounds P.112  
Hiroki Terashima (NTT Communication Science Laboratories)\*; Hiroaki Tsukano (Niigata University); Shigeto Furukawa (NTT Communication Science Laboratories)

P2-2: Hierarchical Network Model of Auditory Information Processing using Dynamical Predictive Coding and Non-negative Matrix Factorization P.114  
Kanata Ara (Future University Hakodate)\*; Yuichi Katori (Future University Hakodate/The University of Tokyo)

P2-3: A Virtual Laser Scanning Photostimulation Experiment of the Primary Somatosensory Cortex P.116  
Zhe Sun (RIKEN)\*; Jun Igarashi (RIKEN)

- P2-4: MNet: Deep neural network for automatic diagnosis of neurological diseases using raw MEG signals P.118  
Jo Aoe (Osaka University)\* Ryohei Fukuma (Osaka University Graduate School of Medicine); Takufumi Yanagisawa\* (Osaka University/ Osaka University Graduate School of Medicine/ JST PRESTO); Tatsuya Harada (The University of Tokyo/ RIKEN)\*; Masataka Tanaka (Osaka University Graduate School of Medicine); Maki Kobayashi (Osaka University Graduate School of Medicine); You Inoue (Osaka University Graduate School of Medicine); Shota Yamamoto (Osaka University Graduate School of Medicine), Yuichiro Onishi (Osaka University Graduate School of Medicine) Haruhiko Kishima (Osaka University Graduate School of Medicine)
- P2-5: Biologically Plausible Learning Method with Minimizing Gap of Local Energy in Asymmetric Neural Network P.120  
Futa Tomita (Osaka University)\*; Jun-nosuke Teramae (Osaka University); Naoki Wakamiya (Osaka University)
- P2-6: Classification based on Neural Connectivity Analysis in a Motor Imaginary Task P.122  
Haruo Mizutani (Bond University)\*; Irini Giannopulu (Bond University)
- P2-7: Improving Analogical Inference Using Vector Operations with Adaptive Weights P.124  
Tatsuhiko Kato (Japan Advanced Institute of Science and Technology)\*; Shohei Hidaka ((Japan Advanced Institute of Science and Technology)
- P2-8: A Study on EEG Analysis by the Ordering ICA Algorithm P.126  
Yoshitatsu Matsuda (The University of Tokyo)\*; Kazunori Yamaguchi (The University of Tokyo)
- P2-9: An Analysis of Human Gaze Data for Autonomous Medical Image Diagnostics P.128  
Abdul Rahman Abdul Ghani (The University of Tokyo)\*; Nishanth Koganti (Nara Institute of Science and Technology); Ai Nakajima (The University of Tokyo); Nisei Kimura (The University of Tokyo); patrick radkohl (The University of Tokyo); Satoshi Iwai (The University of Tokyo); Yoshimasa Kawazoe (The University of Tokyo); Yusuke Iwasawa (); Kotaro Nakayama (The University of Tokyo); Yutaka Matsuo (The University of Tokyo)
- P2-10: Convolutional Layers Based on Dynamic Neurons P.130  
Toshiteru Homma (Yamagata1)\*
- P2-11: Monkey Features Location Identification using Convolutional Neural Networks P.132  
Rollyn Labuguen (Kyushu Institute of Technology)\*; Vishal Gaurav (Kyushu Institute of Technology); Salvador Negrete Blanco (Kyushu Institute of Technology); Tomohiro Shibata (Kyushu Institute of Technology); Jumpei Matsumoto (University of Toyama); Kenichi Inoue (Kyoto University)
- P2-12: Generating Goal-directed Visuomotor Plans with Supervised Learning using a Predictive Coding Deep Visuomotor Recurrent Neural Network P.134  
Takazumi Matsumoto (Okinawa Institute of Science and Technology)\*; Minkyu Choi (Okinawa Institute of Science and Technology); Minju Jung (Korea Advanced Institute of Science and Technology); Jun Tani (Okinawa Institute of Science and Technology Graduate University)
- P2-13: Inactivation of the Isthmo-Optic Neurons Impairs Visuomotor Transformation for Proper Target Orienting P.136  
Hiroyuki Uchiyama (Kagoshima University)\*; Hiroshi Ohno (Kagoshima University); Takuto Kawasaki (Kagoshima University); Yuhki Ohwatari; (Kagoshima University); Takahiro Narimatsu; (Kagoshima University); Yusaku Miyanagi (Kagoshima University)
- P2-14: Restriction of Cerebral Cortical Surface Size by Geometry-Induced Splitting of Traveling Wave Front P.138  
Kazuya Horibe (Osaka University)\*; Ken-ichi Hironaka (University of Tokyo); Katsuyoshi Matsushita (Osaka University); Koichi Fujimoto (Osaka University)
- P2-15: Detection of Task-Relevant and Task-Irrelevant Motion Sequences: Application to Motor Adaptation in Whole- Body Movements P.140  
Ken Takiyama (Tokyo University of Agriculture and Technology)\*; Daisuke Furuki (Tokyo University of Agriculture and Technology)
- P2-16: Reinforcement Learning for Visual Attention with Scalable Size of Attentional Field P.142  
Yutaro Murata (Osaka University)\*; Jun-nosuke Teramae (Kyoto University); Naoki Wakamiya (Osaka University)

- P2-17: Validity of the Flat Minima Approach to Understand Generalization of Deep Learning P.144  
Tsuyoshi Tatsukawa (Osaka University)\* Jun-nosuke Teramae (Kyoto University); Naoki Wakamiya (Osaka University)
- P2-18: Neural Network that Learns Sequential Processing and Predicts by the Context P.146  
Seisuke Yanagawa (OptiD)\*
- P2-19: On the Neuromorphic 3D Devices for Locally-Connected Convolutional Neural Network P.148  
Paniti Achararit (Tokyo Institute of Technology)\*; Itaru Hida (Hokkaido University); Tetsuya Asai (Hokkaido University); Yuko Hara-Azumi (Tokyo Institute of Technology)
- P2-20: A Narrative Analysis Focusing on Personality for Logical Reasoning in Logic P.150  
Momoka Fujieda (Kyushu Institute of Technology)\*; Hiroaki Wagatsuma (Kyushu Institute of Technology)
- P2-21: Decode of Visual Stimulus in Semantic Space based on Electro-corticography Signals P.152  
Ryohei Fukuma (Osaka University)\*; Takufumi Yanagisawa (Osaka University); Shinji Nishimoto (Center for Information and Neural Networks (CiNet), National Institute of Information and Communications Technology); Masataka Tanaka (Osaka University); Shota Yamamoto (Osaka University); Satoru Oshino (Osaka University); Yukiyasu Kamitani (ATR Computational Neuroscience Laboratories); Haruhiko Kishima (Osaka University)
- P2-22: Online Reinforcement Learning Using a Spiking Neuron Network Model of the Basal Ganglia P.154  
Hideyuki Yoshimura (The University of Electro-Communications)\*; Tadashi Yamazaki (The University of Electro-Communications)
- P2-23: How We Treat Logical Rules to Solve Puzzles: A Semantic Web Approach for Bongard Problems P.156  
JISHA MANIAMMA (Kyushu Institute of Technology)\*; Hiroaki Wagatsuma (Kyushu Institute of Technology)
- P2-24: A Hippocampal Spiking Neural Network Model for Path-Dependent Place Cells P.158  
Masashi Kawauchi (Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology)\*; Kensuke Takada (Kyushu Institute of Technology); Katsumi Tateno (Kyushu Institute of Technology); Takashi Morie (Kyushu Institute of Technology)
- P2-25: Neural Implementation and Evolutionary Simulation of Building Hierarchical Structure P.160  
Genta Toya (Japan Advanced Institute of Science and Technology)\*; Rie Asano (University of Cologne); Takashi Hashimoto (JAIST)
- P2-26: Efficient Encoding of Multi-dimensional Time Series Data with Reservoir Computing P.162  
Masumi Kaneko (Future University Hakodate)\*; Yuichi Katori (Future University Hakodate/The University of Tokyo)
- P2-27: Swap Kernel Regression P.164  
Masaharu Yamamoto (Chubu University)\*; Koichiro Yamauchi (Chubu University)
- P2-28: Considering a Haiku Generation Process Using Deep Learning P.166  
Jumpei Ono (Vocational School of Digital Arts Sendai)\*; Takuya Ito (Iwate Prefectural University); Takashi Ogata (Iwate Prefectural University)
- P2-29: Functional Network Analysis of Neural Activities based on Frequency Domain Analysis and Machine Learning P.168  
Yoshiyuki Asai (Yamaguchi university)\*; Takeshi Abe (Yamaguchi university); Takahide Hayano (Yamaguchi university); Manon Jaquerod (University of Lausanne); Alessandra Lintas (University of Lausanne); Alessandro E. P. Villa (University of Lausanne)
- P2-30: A Bergson-Inspired Adaptive Time Constant for the Multiple Timescales Recurrent Neural Network Model P.169  
Thomas F Burns\* (Okinawa Institute of Science and Technology Graduate University); Fabien C. Y. Benureau (Okinawa Institute of Science and Technology Graduate University); Jun Tani (Okinawa Institute of Science and Technology Graduate University)
- P2-31: Noise Robustness and Generalization of Bayesian Neural Networks with Lognormal Synaptic Weights P.171  
Thomás Rodrigues Crespo (Osaka University)\*; Jun-nosuke Teramae (Kyoto University); Naoki Wakamiya (Osaka University)



- P2-32: Parallel Computing of a Cortico-Thalamo-Cerebellar Circuit on K Computer P.173  
Jun Igarashi (RIKEN)\*; Hiroshi Yamaura (The University of Electro-Communications); Tadashi Yamazaki (The University of Electro-Communications)
- P2-33: Application Log Analysis of Junior High School Math Learning in Okinawa P.175  
Kosuke Nakamura (University of the Ryukyus)\*; Ryusei Furuta (University of the Ryukyus); Tsukasa Irei (University of the Ryukyus); Hiroyuki Matsuo (University of the Ryukyus); Takanori Hinokuma (University of the Ryukyus); Ryota Miyata (University of the Ryukyus);
- P2-34: Learning Timescales in MTRNNs P.177  
Fabien C. Y. Benureau (Okinawa Institute of Science and Technology Graduate University); Jun Tani (Okinawa Institute of Science and Technology Graduate University)\*
- P2-35: Analysis of Structure-Function Relationship using a Whole-Brain Model based on the Common Marmoset MRI Data P.179  
Hiromichi Tsukada (Okinawa Institute of Science and Technology Graduate University)\*; Hiroaki Hamada (Okinawa Institute of Science and Technology Graduate University); Ken Nakae (Kyoto University); Shin Ishii (Kyoto University); Junichi Hata (Keio University School of Medicine); Hideyuki Okano (Keio University School of Medicine); Kenji Doya (Okinawa Institute of Science and Technology)
- P2-36: Theoretical Analysis of Non-Exact Retrace Algorithm P.181  
Tadashi Kozuno (Okinawa Institute of Science and Technology)\*; Kenji Doya (Okinawa Institute of Science and Technology)

## Day 4 (Sat, Oct 27th)

### 09:00-10:00 Oral Session 3

**Chair: Jun-nosuke Teramae (Kyoto university)**

- O3-1: Observation and Analyses of the Dynamics of the Whole Head Nervous System in *C. elegans* P.36  
Yuichi Iino (The University of Tokyo)\*; Yu Toyoshima (The University of Tokyo); Stephen Wu (The Institute of Statistical Mathematics); Yuishi Iwasaki (Ibaraki University), Ryo Yoshida (The Institute of Statistical Mathematics); Hirofumi Sato (The University of Tokyo); Moon-Sun Jang (The University of Tokyo); Manami Kanamori (The University of Tokyo); Suzu Oe (Kyushu University), Yuko Murakami (Kyushu University), Takayuki Teramoto (Kyushu University); Takeshi Ishihara (Kyushu University)
- O3-2: Multisensory Integration in the HBP Neurorobotics Platform P.38  
Florian Walter (Technical University of Munich)\*; Fabrice O. Morin (Technical University of Munich); Alois Knoll (Robotics and Embedded Systems)
- O3-3: Phase Synchrony in Symbolic Communication: Effect of Order of Messaging Bearing Intention P.40  
Masayuki Fujiwara (JAIST)\*; Takashi Hashimoto (JAIST); Guanhong Li (JAIST); Jiro Okuda (Kyoto Sangyo University); Takeshi Konno (Kanazawa Institute of Technology); Kazuyuki Samejima (Tamagawa University); Junya Morita (Shizuoka University)

### 10:00-11:30 Symposium 3: Studying the Brain from the Viewpoint of Neural Network Learning

**Chair: Taro Toyozumi (RIKEN Center for Brain Science)**

- S3-1: An Optimization Approach to Understand Biological Searches and Learning P.19  
Taro Toyozumi (Organizer, RIKEN Center for Brain Science)\*
- S3-2: A Supervised Learning Rule as a Stabilization Mechanism of Arbitral Fixed Points of Hidden Neurons P.20  
Jun-nosuke Teramae (Kyoto university)\*
- S3-3: Decoding of Seen and Imagined Contents from the Human Brain via Deep Neural Network Representation P.21  
Tomoyasu Horikawa (ATR)\*