

Poster Session List (Part 1)

Poster Session Time [Part 1] 15 : 30~16 : 30, [Part 2] 16 : 30~17 : 30

RIEC : Research Institute of Electrical Communication, Tohoku University

| No. | Grant No. | Title | Presenter | Affiliated Institution | Keywords |
|-------|--------------|---|--|---|--|
| A-01 | R04/A09 | Light-element based antiperovskite materials for efficient spintronic devices | 1)ISOGAMI Shinji, SAKURABA Yuya, 2)ASANO Hidefumi, 3)KIMURA Akio, 4)SUEMASU Takashi, 5)KOKADO Satoshi, 6)ITO Takahiro, 7)TSUNODA Masakiyo, ITO Keita, 8)SHIRAI Masafumi | 1)NIMS, 2)NISRI, 3)Hiroshima Univ., 4)Univ. of Tsukuba, 5)Sizuoka Univ., 6) Nagoya Univ., 7) Tohoku Univ., 8)RIEC | Light Elements / Antiperovskite / Functional Devices / Spintronics |
| A-02 | R03/A03 | Generation of electron spin textures in GaAs/AlGaAs quantum well using vector vortex beams | ISHIHARA Jun | Tohoku Univ. | Electron Spin / Semiconductor / Vector Beam / Spin-orbit Interaction |
| A-03 | R04/A04 | Study on Silicidation Reaction of Fe-Nanodots with SiH4 | 1)MIYAZAKI Seiichi, MAKIHARA Katsunori, 2)MURATA Junichi, 3)SAKURABA Masao, SATO Shigeo | 1)Nagoya Univ., 2)Tohoku Univ., 3)RIEC | Energy-saving Technology |
| A-04 | R05/A08 | Characteristics of thin films deposited on Ge substrates at ultra low temperatures | 1)OTANI Yohei, 2)SATO Tetsuya, 3)SAKURABA Masao, 4)MURATA Junichi | 1)Suwa Univ. of Sci., 2)Univ. of Yamanashi, 3)RIEC, 4)Tohoku Univ. | Semiconductor / Semiconductor Process / Interface / Electrical Properties |
| A-05 | R05/A02 | Development of Fundamental Technology of Materials and Processes for New Group-IV Semiconductor Nanoelectronics | SAKURABA Masao | RIEC | Semiconductor / Device / Material / Process |
| A-06 | R03/A26 | Towards automatic parameter tuning of larger-scale quantum systems by machine learning | 1)FUKUHARA Takeshi, 2)OTSUKA Tomohiro | 1)RIKEN, 2)RIEC | Quantum Technology / Machine Learning / Data Science / Automation |
| A-07 | Tohoku Univ. | CIES Consortium | SHINADA Takahiro | CIES | Carbon Neutral / Low-power Technology / Spintronics / Semiconductor |
| A-08 | R03/A31 | Research on volcanic activity monitoring and construction of gravity observation network using optical fiber communication technology | 1)Keisuke Kasai, Masato Yoshida, 2)Akito Araya, 3)Tsuneya Tsubokawa, 4)Masataka Nakazawa | 1)RIEC, 2)Univ. Tokyo, 3)Shin- ei Keisoku, 4)Tohoku Univ. | Crustal Deformation Monitoring / Gravitational Acceleration / Frequency Stabilized Laser / Optical Fiber Network |
| A-09 | R03/A27 | Investigation of contactless power transmission in a long distance | FURUHASHI Taisei, SHIBATA Naoto, UEHARA Keigo, INAMORI Mamiko | Tokai Univ. | Energy System / Smart Society |
| A-10 | R04/A21 | Propagation directivity of wireless body area network | AKIMOTO Kohei | Akita Prefectural Univ. | Wireless Communication / Millimeter-wave / Healthcare / IoT |
| A-11 | R03/A10 | High-frequency chaotic circuits using RTD nonlinearity and its applications | MAEZAWA Koichi | Toyama University | IoT / Electron Device / HF Circuit / Quantum Electronics |
| A-12 | R04/A05 | Study of magnetic, dielectric and optical properties of nanomaterials for terahertz applications | 1)MOUTAOUAKIL Amine El, 2)OTSUJI Taiichi | 1)United Arab Emirates Univ., 2)RIEC | Nanomaterial / Terahertz / Electron Device / IoT |
| A-13 | R05/A01 | Graphene junction diode | NAGASE Masao | Tokushima Univ., Institute of Post-LED Photonics | Graphene / Diode / Junction / Electric Device |
| A-14 | R05/A09 | Catalytic CVD growth of large-area MoS2 | 1)UCHINO T, SAKATA R, TOHSHA I, Y. Heng, 2)TANG Chao, 3)SATOU Akira, FUKIDOME Hirokazu, OTUJI Taiichi | 1)Tohoku Institute of Technology, 2)Tohoku Univ., 3)RIEC | 2D Materials / CVD / Optoelectronic Devices / Nanotechnology |
| A-15 | R05/A28 | Object Detection Method for High-Resolution Image Sensing Using Deep Learning | 1)MATSUMURA Tetsuya, 2)OTSUJI Taiichi | 1)Nihon Univ., 2)RIEC | Sensing / High-Resolution Images / Object Detection / Deep Learning |
| A-16 | R05/A30 | Sub-terahertz transmitter using optoelectronic heterogeneous integration technology | KITA Tomohiro | Waseda Univ. | Photonic Integrated Circuit / Silicon Photonics / Semiconductor Laser Diode / Terahertz |
| A-17 | R05/A24 | Autopoiesis service platform supporting smart society | KITAGATA Gen | Morioka Univ. | IoT / Smart Society / Service Platform / Information Processing Infrastructure |
| A-18 | R05/A36 | Performance Evaluation of Congestion Control Algorithms on the Real Internet | UTSUMI Satoshi | Fukushima Univ. | Information Network / Internet / Performance Evaluation / Congestion Control Algorithm |
| A-19 | R03/A22 | Implementation and Evaluation of CRYSTALS-Kyber Post-Quantum Cryptography | 1)MATSUSHITA Rei, OGUMA Hiroshi, 2)HOMMA Naofumi | 1)National Institute of Technology, Toyama College, 2)RIEC | Quantum / Cryptography / Speeding Up / IoT |
| A-20 | R05/A20 | Characterization of mechanical properties and microstructure of magnetostrictive iron-gallium alloys | CHIBA Masaki | Tohoku Univ. | IoT |
| A-21 | R05/A05 | Intraoral Bio-sensing Devices - Challenges in New Areas Using Light and Magnetism | 1)NONAKA Junya, ISOGAI Ryosuke, 2)GOTO Taichi | 1)Seiko Future Creation Inc., 2)RIEC | IoT |
| A-22 | R03/A16 | Effect of auditory selective attention in depth on target sound detection | TANAKA Yuki, TERAOKA Ryo | Kumamoto Univ. | Auditory Selective Attention / Distance Perception / Auditory Spatial Attention / Sound Localization |
| A-23 | R03/A28 | Effect of Optic Flow on Peripersonal Space Representation in Young and Older Adults | KURODA Naoki, HARADA Shinya, TERAMOTO Wataru | Kumamoto Univ. | Human Information / Visuotactile Interaction / Self-motion / Aging / Virtual Reality |
| A-24 | R05/B07 | Revised model for explaining apparent rotational motion of shape distortion illusions | SAKURAI Kenzo | Tohoku Gakuin Univ. | Visual Illusion / Apparent Motion / Adaptation / Detector Model |
| A-25 | R04/A15 | Predicting students' engagement and hint-seeking behaviors using machine learning with video-based feature extraction | WANG Guan-yun, NAGATA Hikaru, HATORI Yasuhiro, SATO Yoshiyuki, TSENG Chia-huei, SHIOIRI Satoshi | RIEC | Facial Expression / EEG / Mental States / Machine Learning |
| A-26 | R03/B09 | Self-body recognition in monkeys in virtual reality | 1)NAKAMURA Shinya, 2)TSUTSUI Ken-Ichiro | 1)National Institute for Physiological Sciences, 2)TOHOKU Univ. | Virtual Reality / Self-body Recognition / Delayed Visual Feedback / Monkey |
| A-27 | R05/A34 | A computational model for the gender and culture interaction effect on facial expression classification | CHEN Chien-Chung | National Taiwan Univ. | Smart Society |
| A-28 | R05/B12 | Interaction mechanisms between individuals of the same and different species in the sheepdog system | TSUNODA Yusuke | Osaka Univ. | Swarm System / Herding / Heterogeneous Swarm Intelligence / Swarm Control |
| A-29 | R05/B11 | Development of a device for applying membrane lateral voltage using flexible insulating layers | NOMOTO Tatsuya | RIEC | Artificial Cell Membrane / Ion Channel / Electrophysiology / Sputtering |
| A-30 | R05/A21 | Effect of optogenetic stimulation on neuronal ensembles in biological neuronal networks | MURATA Hakuba | RIEC | Neural Network / Biology / Plasticity / Statistical Analysis |
| A-31 | R05/A15 | Use of VR in workplace patrol training. | 1)IROKAWA Toshiya, GOMI Ryota, TANAKA Yudai, ABE Manato, SHIMIZU Naoya, 2)KITAMURA Yoshifumi | 1)Tohoku Univ. Graduate School of Medicine, 2)RIEC | DX Promotion / Health and Safety Activities / VR / Hands-on Training |
| A-32 | R04/B08 | Universal Design of Water Mobility for Sustainable/Inclusive Society | SUEDA Koh | Sensefoil Pte. Ltd. | Smart Society |
| A-33 | R05/B08 | Study of methods for guiding a flock of crows | 1)TSUKAHARA Naoki, NAGATA Ken, 2)ANDO Takahiro, TSUDA Sonoko, 3)AINOYA Kano, AOYAMA Masato, 4)SUEDA Koh, 5)INOUE Maakito, TAKASHIMA Kazuki, KANO Takeshi, KITAMURA Yoshifumi | 1)CrowLab, 2)Chubu Electric Power, 3)Utsunomiya Univ., 4)SenseFoil, 4)RIEC | Crow / Vocal / Behavior Control / Flock |
| A-34 | R04/A20 | Context Effect on Embodied Emotions | CHENG Miao | RIEC | Emotion / Nonverbal Communication / Body Movement / Biological Motion |
| A-35 | R05/A22 | Toward the development of Motion Unit: A study on anatomy-based basic body movements | 1)CHENG Miao, TENG Yu Xuan, CHU Kin Fung, TSENG Chia-huei., KITAMURA Yoshifumi, 2)FUJIWARA Ken | 1)RIEC, 2)National Chung Cheng University | Emotion Expression / Nonverbal Behavior / Motion Capture / Bodily Motions |
| A-36 | R03/A20 | Neuromorphic System using Thin-Film Memcapacitor | KIMURA Mutsumi | Ryukoku Univ. | Thin-Film Device / Neuromorphic System / Computer System / AI |
| *B-36 | R05/B13 | III) Dynamics of reservoir layer in time series prediction | III) YOSHIDA Shion, IKEGUCHI Tohru | Tokyo Univ. of Science | Nonlinear Time Series Analysis / Chaos / Embedding / Attractor |
| A-37 | R03/B06 | Control-less High-frequency WPT system with CC/CV mode switch | SEKIYA Hiroo | Chiba Univ. | Energy-savein Technology |
| *B-37 | R05/B13 | I) Detecting causality for marked point processes with twin surrogate method | I) SAWADA Kazuya, IKEGUCHI Tohru | Tokyo Univ. of Science | Nonlinear Time Series Analysis / Chaos / Embedding / Attractor |
| A-38 | Tohoku Univ. | Industry-University Collaboration of Tohoku University | MORI Ayaka | Tohoku Univ. | Industry-University Collaboration / One-stop Desk / IP/ Startups |

Poster Session List (Part 2)

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RIEC : Research Institute of Electrical Communication, Tohoku University

| No. | Grant No. | Title | Presenter | Affiliated Institution | Keywords |
|------|--------------|---|---|--|---|
| B-01 | R03/B01 | Experimental and theoretical studies of new physical phenomena at interfaces brought on by electron spins, orbitals and multipoles | 1)MIURA Yoshio, 2)OKABAYASHI Jun, 3)SHIRAI Masafumi | 1)NIMS, 2)Univ. of Tokyo, 3)RIEC | Spintronics / Magnetic Materials / Magneto-crystalline Anisotropy / Magnetic Random Access Memory / IoT |
| B-02 | R03/A32 | Reservoir computing using CMOS spiking neurons | SATO Shigeo | RIEC | Reservoir Computing / CMOS / Neural Network |
| B-03 | R04/A19 | Study on Superconducting Nanowires for Single Photon Detection | MIMA Satoru | NICT | Superconductor / Single Photon Detector/ Infrared / Nanowire |
| B-04 | R03/A02 | A new fabrication scheme for Ge-on-Insulator and its device characteristics | 1)YAMAMOTO Keisuke, WANG Dong, NAKASHIMA Hiroshi, 2)SAKURABA Masao, 3)MUROTA Jun-ichi | 1)Kyushu Univ., 2)RIEC 3)Tohoku Univ. | IoT / Integrated Devices / Semiconductor / Surface / Interface |
| B-05 | R03/A06 | Study on response of quantum point contact to radioactive rays | 1)YOSHIDA Sei, TAKAKUSA Gen, 2)KISHIMOTO Yasuhiro, 3)OTSUKA Tomohiro | 1)Osaka Univ., 2)Tohoku Univ., 3)RIEC | Quantum Point Contact / Semiconductor Quantum Dot / Radiation Effect / Sensor |
| B-06 | R04/A06 | Single PbS colloidal quantum dot transistors | 1)SHIBATA Kenji, 2)OTSUKA Tomohiro | 1)Tohoku Institute of Technology, 2)RIEC | Colloidal Quantum Dots / Transistor / Tunneling Effect / Single Electron |
| B-07 | Tohoku Univ. | Memristor State Transition Dynamics: Bridging Digital and Analog Neuromorphic Computing for Industrial IoT Applications | Li Tao | RIEC | Memristor / Neuromorphic Computing/ IoT / Computing and Memory |
| B-08 | R03/A12 | Integrated Rectenna Arrays with Dual Functions: Conversion of Electromagnetic Waves to Electrical Power and Propagation to Adjacent Elements | MARUYAMA Tamami | National Institute of Technology, Hakodate College | Wireless Power Transmission / Energy-harvesting / Antenna / IoT |
| B-09 | R04/A11 | RF Characteristics of Diamond Transistors in the Microwave Band | 1)MASUMURA Tadashi, KANEKO Junichi, YAMAGUCHI Takahiro, 2)KAWASHIMA Hiroyuki, UMEZAWA Hitoshi, HOSHIKAWA Naohisa, 3)FURUICHI Tomoyuki, KARASAWA Fumito, SUEMATSU Noriharu | 1)Hokkaido Univ., 2)OOKUMA DIAMOND DEVICE Co., Ltd, 3)RIEC | Diamond/Transistor/Microwave Band/RF Characteristics |
| B-10 | R05/A12 | Study on optimization design of milli-meter wave devices and transmission lines | ITOH Keiichi | National Institute of Technology, Akita college | Millimeter Wave / 3D Printer / Waveguide / Filter |
| B-11 | R03/A13 | Extending LPWA systems underwater using visible light communication | 1)YOSHIMOTO Naoto, OIKAWA Ryusei, 2)IWATSUKI Katsumi, 3)OTSUJI Taiichi | 1)Chitose Institute of Science and Technology, 2)Tohoku Univ., 3)RIEC | Visible Light Communication / Sensing System Underwater / Internet of Things(IoT) / Low Power Wireless |
| B-12 | R04/A10 | Japan-USA International Collaborative Research on the Theoretical and Experimental Investigation of Coulomb Drag Instability of Graphene Dirac Plasmons and its Application for THz Laser Transistors | 1)MITIN Vladimir, 2)OTSUJI Taiichi | 1)Univ. at Buffalo,SUNY 2)RIEC | Graphene / Terahertz / Plasmon / Laser |
| B-13 | R05/A07 | Japan-Russia International collaborative research of new designs of high-power large-area photoconductive antenna-emitters | 1)PONOMAREV Dmitry, 2)OTSUJI Taiichi | 1)Institute of Ultra High Frequency Semiconductor Electronics of Russian Academy of Sciences, 2)RIEC | Photonics / Emitter / Antenna / Terahertz |
| B-14 | R05/A13 | New generation of 2D material based devices for terahertz technology | 1)MEZIANI Yahya Moubarak, 2)OTSUJI Taiichi | 1)Univ. of Salamanca, 2)RIEC | 2D Materials / Terahertz / Electron Devices / IoT |
| B-15 | R05/B15 | Fundamental Research on Sensing and Intervention for Human and Society | ARAKAWA Yutaka | Kyushu Univ. | IoT / Smart Society / Information Network |
| B-16 | R05/A23 | Distributed Smart Multihome Energy Management Based on Federated Deep Reinforcement Learning | SHAO Xun | Toyohashi Univ. of Technology | Intelligent System / Energy-saving Technology / Smart Society / IoT |
| B-17 | R05/A27 | Emotion analysis of online Thai sentences using machine learning | ZABIR Salahuddin Muhammad Salim | National Institute of Technology, Tsuruoka College | Machine Learning / Online Text Analysis / Deep Learning / RNN |
| B-18 | R03/B12 | User Estimation toward Multi-User Activity Recognition | ISHIDA Shigemi | Future Univ. Hakodate | Ubiquitous System / Activity Recognition / User Identification / IoT |
| B-19 | R04/A08 | High-frequency response of submicron-sized magnetic disks with asymmetric magnetic domain structure | 1)KODA Tetsunori, 2)ENDO Yasushi | 1)Oshima College, 2)Tohoku Univ. | Magnetic Disks / Magnetic Domain Structure / High-frequency Response |
| B-20 | R04/T07 | Activity Report of Spinics Research Society | 1)GOTO Taichi, 2)HANE Yoshinori, YABUKAMI Shin | 1)RIEC, 2)Tohoku Univ. | Symposium / Spinics / Spintronics / Magnetism |
| B-21 | R05/A29 | Preparation of ultrafine magnetic garnet particles for fabrication of flexible magneto-optical thin films | 1)HASHIMOTO Ryosuke, SHIMADA Takuma, FUKUCHI Shunsuke, 2)GOTO Taichi | 1)National Institute of Technology, Suzuka College, 2)RIEC | Magneto-optics / Magnetic Materials / Nondestructive Inspection / Flexible |
| B-22 | R03/A23 | Robot-Guided Evacuation Method Considering Congestion at Stairs | UCHIYA Takahiro | Nagoya Institute of Technology | Evacuation Guidance / Multiagent System / Robot / Intelligent System |
| B-23 | R05/A35 | Automatic anomaly detection for daily sounds based on machine learning with DAGMM | 1)TAKANE Shouichi, ABE Koji, WATANABE Kanji, SUZUKI Yôiti, 2)SAKAMOTO Shuichi | 1)Tohoku Bunka Gakuen Univ., 2)RIEC | Intelligent System |
| B-24 | R04/A14 | Detection of Self-initiated Attention by Criticality Analysis of EEG | OKA Furi | Univ. of Tsukuba | Neuroscience / Vision Science / EEG / Psychophysics |
| B-25 | R04/A16 | Study on estimating mental processes from facial expressions | 1)SATO Yoshiyuki, 2)SHIOIRI Satoshi | 1)Aichi Shukutoku Univ., 2)RIEC | Facial Expression Analysis / Remote Care / Machine Learning / Intelligent System |
| B-26 | R05/A17 | Auditory Modulation on Saccadic Suppression | MA Jialiang | RIEC | Smart Society |
| B-27 | R04/T05 | A Feasibility Study of Prediction of Lower Limb Segment Inclination Angles under Different Walking Speeds | KAWASHIMA Ryo, WATANABE Takashi | Tohoku Univ. | Biomedical Engineering / Inertial Sensor / Gait / Movement Prediction |
| B-28 | R03/A04 | Development of Air Plasma Devices and Applications in Medical and Agricultural Fields | KANEKO Toshiro, TAKASHIMA Keisuke, SASAKI Shota | Tohoku Univ. | Plasma / Sustainable Society / Future Medicine and Drug Discovery / Sustainable Farming |
| B-29 | R05/A18 | Fabrication of micro-electrodes on a chitosan-nanofiber substrate for a flexible neural interface | ANDO Daiki | RIEC | Bioelectronics / Biomaterial / Microelectrode / Neuroscience |
| B-30 | R04/A22 | An Exploratory Study to Build an Environment for "Collaborative HyFlex Classes" Utilizing XR Technology | HAYASHI Masako | Institute for Excellence in Higher Education, Tohoku Univ. | Metaverse / XR / VR / International Collaborative Learning |
| B-31 | R04/B06 | Designing the Next Normal of Academic Conferences | MURAYAMA Hiromi | Pacific Convention Plaza Yokohama (PACIFICO Yokohama) | Meeting Format / Value of F2F Gathering / Sustainability / Social Impact |
| B-32 | R05/B05 | Understanding and Designing Interactions between People and Computational Environments by Focusing on their Amplification and Attenuation Effects on Human Actions and Emotions | 1)NAKAKOJI Kumiyo, 2)YATANI Koji, 3)YAMASHITA Naomi, 4)KITAMURA Yoshifumi | 1)Future Univ. Hakodate, 2)Univ. of Tokyo, 3)NTT, 4)RIEC | Human-Computer Interaction / Actions and Emotions / Social Influences / Cross-Disciplinary Approach |
| B-33 | R05/A16 | Research on dynamic VR/AR workspaces for inducing physical movements | 1)TANAKA Yudai, FUJITA Kazuyuki, 2)TAKAHARA Ryo | 1)RIEC, 2)TATAMI inc. | VR / Working Posture / Physical Movements / Neck Pain |
| B-34 | R05/A14 | Collaborative evaluation of non-verbal communication solutions | Benjamin Watson | North Carolina State University | Video Conferencing / Non-verbal Communication / Delphi Survey / Eye Contact |
| B-35 | R05/A33 | Minimum viable communication: An investigation of essential body movement representations to communicate an emotion | CHENG Miao | RIEC | Affective Computing / Psychology of Emotion / HCI / Data Science / Intelligent System |
| B-36 | R05/A19 | Toward Hardware Implementation of the Hippocampal Learning Memory Model Based on Spatio-Temporal Learning Rule | ORIMA Takemori, HORIO Yoshihiko | RIEC | Intelligent System |
| B-37 | R05/B13 | II) Determinism of electroencephalographic (EEG) potentials of epileptic seizure | II) SEKIGUCHI Makoto , IKEGUCHI Tohru | Tokyo Univ. of Science | Nonlinear Time Series Analysis / Chaos / Embedding / Attractor |
| B-38 | Tohoku Univ. | Industry-academia collaborative activities of the IIS Research Center | ABE Yusuke | IIS Research Center | Industry-academia Collaboration / Regional Collaboration / Social Implementation / AI |

Poster Session

Venue: RIEC Main Building, 1F Hall

Poster Session Time

A00 Part 1 (第1部) 15:30-16:30

B00 Part 2 (第2部) 16:30-17:30

