

## List of Abstract

### 01AM1 session

- 01AM1-1 <Invited 1> "Establishment of Comprehensive Analytical System for Terrestrial and Extraterrestrial Materials (CASTEM) and its Applications"  
Eizo Nakamura (Okayama University, Japan)
- 01AM1-2 <Invited 2> "Function of Odorant Receptors"  
Hiroaki Matsunami (Duke University, USA)
- 01AM1-3 <Invited 3> "Building a Real-time Artificial Cerebellum on FPGA"  
Chung Tin (City University of Hong Kong, China)

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### 01GSS (Graduate Student Session)

- GSS1-1 "Highly Mobile State of the Solid  $4\text{He}$  Layers under the Superfluid Overlayer"  
K. Ishibashi, J. Hiraide, J. Taniguchi, and M. Suzuki (The University of Electro-Communications, Japan)
- GSS1-2 "A Fundamental Study on Carbon Composites of  $\text{FeF}_3 \cdot 0.33\text{H}_2\text{O}$  as Open-framework Cathode Materials for Calcium-ion Batteries"  
Yoshiaki Murata, Ryoji Minami, Shoki Takada, Kengo Aoyanagi, Tomohiro Tojo, Ryoji Inada, and Yoji Sakurai (Toyohashi University of Technology, Japan)
- GSS1-3 "Fabrication of hybrid upconversion nanoparticle/ $\text{TiO}_2$  aerogel photocatalyst to improve photocatalytic performance"  
Fu-Chih Li, and Yoshitaka Kitamoto (Tokyo Institute of Technology, Japan)
- GSS1-4 "Structures and Magnetic Properties of Transition-Metal Complexes Involving Bipyridinyl Nitroxide Radicals"  
Akihiro Ondo, and Takayuki Ishida (The University of Electro-Communications, Japan)
- GSS1-5 "Every Second Prediction of Solar Power Generation Based on Estimation of Cloud Shadow Behavior nearby the Power Station"  
Ryohei Nomura, Toru Harigai, Yoshiyuki Suda, and Hirofumi Takikawa (Toyohashi University of Technology, Japan)
- GSS1-6 "Composites of titanate nanotube and FePt nanocapsules for electrocatalyst"  
A. Kuwaki and Y. Kitamaoto (Tokyo Institute of Technology, Japan)
- GSS1-7 "Nanosliding of a  $\text{Si}_3\text{N}_4$  tip on an Oscillating Graphite"  
T. Suzuki, S. Tanahara, J. Taniguchi, M. Suzuki, N. Sasaki, M. Ishikawa, and K. Miura (The University of Electro-Communications, and Aichi University of Education, Japan)

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### 01PM1 session

- 01PM1-1 <Invited 4> "Advanced Analysis by Types Based on Service Science Using Big Data"  
Michiko Tsubaki (The University of Electro-Communications, Japan)
- 01PM1-2 <Invited 5> "Spatial-radiation Characteristics of Musical Instruments and their Reproduction with a Spherical Loudspeaker Array"  
Katuhiko Maki (Aichi Shukutoku University, Japan)
- 01PM1-3 <Invited 6> "Dementia Prevention Utilizing Music: Mihama-Kiho Project"  
Masayuki Satoh (Mie University, Japan)

01PM1-4 <Contributed Talk 1>“Improving Monte-Carlo Localizer for Autonomous Vehicles Using Edge Matching”  
M. Aldibaja, N. Suganuma, K. Yoneda (Kanazawa University, Japan)

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01PM2 session

01PM2-1 <Invited 7>“Turn-on and Color-changeable Fluorogenic Molecular Probe for Specific Protein Detection Created by the 10BASEd-T”  
Masumi Taki (The University of Electro-Communications, Japan)

01PM2-2 <Invited 8>“Interdisciplinary Research Initiative of Photon-nano Science in TUAT”  
Kazuhiko Misawa (Tokyo University of Agriculture and Technology, Japan)

01PM2-3 <Contributed Talk 2>“Anticancer activity in honeybee propolis: functional insights to the bioactives, bioactivities and bioavailability”  
Priyanshu Bahrgava (National Institute of Advanced Industrial Science & Technology, and University of Tsukuba, Japan)

01PM2-4 <Contributed Talk 3>“Role of longitudinal vortices induced by jets in upstream boundary layer on suppression of cavity tone”  
R. Adachi, H. Yokoyama, and A. Iida (Toyohashi University of Technology, Japan)

01PM2-5 <Invited 9>“ORCID: Connecting Research & Researchers”  
Nobuko Miyairi (ORCID)

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02AM1-1 <Invited 10>“Gravitational Wave Detectors: Status of the Art and Perspectives”  
Rafaele Flaminio (National Astronomical Observatory of Japan, Japan)

02AM1-2 <Invited 11>“Current Observational Results from LIGO and Virgo”  
Kipp Cannon (University of Tokyo, Japan)

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02AM2-1 <Invited 12>“Mysterious in the Sky – Artificial Auroras and Black Auroras”  
Michael Kosch (South African National Space Agency, South Africa)

02AM2-2 <Invited 13>“Radar Observation of the Atmosphere; from a Technical Perspective”  
Koji Nishimura (National Institute of Polar Research, Japan )

02AM2-3 <Invited 14>“Toward Polymerization Control of Homo-multimer”  
Keita Abe, Takeo Uchida (Tohoku University, Japan)

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02GSS (Graduate Student Session)

GSS2-1 “Effects of wake-turbine blade interactions on power production of wind turbines”  
M. Tadokoro, H. Yokoyama, and A. Iida (Toyohashi University of Technology, Japan)

GSS2-2 “Stabilization of the optical correlation output signal using new methods”  
Kanami Ikeda, Hidenori Suzuki, Hiroki Satake, Toshihiro Sugaya, and Eriko Watanabe (The University of Electro-Communications, Japan)

GSS2-3 “Brownian particle-kinetics in a superparamagnetic ferrofluid subjected to static magnetic-field”  
S. B. Trisnanto, and Y. Kitamoto (Tokyo Institute of Technology, Japan)

- GSS2-4 "Measurement of unsteady surface pressure on rotor blades of fans by Pressure-Sensitive Paint"  
H. Yokoyama, K. Miura, and A. Iida (Toyohashi University of Technology, Japan)
- GSS2-5 "Multi-step Ahead Prediction of Midlatitude Daily Nighttime Subionospheric VLF Signals using NARX NN Modeling"  
H. Santosa, Y. Hobara, and Y. Matsui (The University of Electro-Communications, Japan)
- GSS2-6 "Investigation of friction characteristics due to the surface properties fabricated by surface texturing"  
Y. Ebisuno, Y. Sato, and M. Fukumoto (Toyohashi University of Technology, Japan)
- GSS2-7 "Analysis of Differences between Western and East-Asian Faces Based on Facial Region Segmentation and PCA for Facial Expression Recognition"  
G. Benitez-Garcia, T. Nakamura, and M. Kaneko (The University of Electro-Communications, Japan)
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02PM1 session

- 02PM1-1 <Invited 15>"Towards Actualization of the Next Generation Mobile System 5G"  
Yukihiko Okumura (NTT DoCoMo Inc., Japan)
- 02PM1-2 <Invited 16>"Adaptive Control of Reflexive Eye Movements in Fish and Humans: ~ Goldfish BMI, Artificial Cerebellum, and Sleepiness Prediction~"  
Yutaka Hirata (Chubu University, Japan)
- 02PM1-3 <Invited 17>"Robust Digital Logic Circuits in Yeast with CRISPR/dCas9 NOR gates"  
Miles Gander (University of Washington, USA)
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02PM2 session

- 02PM2-1 <Invited 18>"Probing and Engineering Thermal Effects in Atomic Layer 2D Nanoelectromechanical Systems (NEMS)"  
Jaesung Lee (Case Western Reserve University, USA)
- 02PM2-2 <Invited 19>"MEMS Optical Interferometric Surface-stress Sensor for Multi-biomarker Detection"  
Kazuhiro Takahashi (Toyohashi University of Technology, Japan)
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Poster session

- P1 "Development of the yeast-based reporter assay for sensing genotoxicity and oxidative toxicity and improvement of yeast strains by genome editing"  
T. Eki, H. Suzuki, S. Matsunobu, Y. Miura, T. Sakabe, and Y. Hirose (Toyohashi University of Technology, Japan)
- P2 "Electrical characteristics of the MSM diode with a multilayer of metals and non-stoichiometric nickel oxide"  
Sultan Mahmud, Shinji Nozaki, and Kazuo Uchida (The University of Electro-Communications, Japan)

- P3 "Structures and Photovoltaic Properties of  $\text{CH}_3\text{NH}_3\text{PbI}_3$  with Perovskite Structure"  
Yasuhiro Shirahata, and Takeo Oku (The University of Shiga Prefecture, Japan)
- P4 "Microstructures and Optical Properties of Surface and Inside of Silicon Spheres"  
Yasuhiro Shirahata, Takeo Oku, Youichi Kanamori, and Mikio Murozono (The University of Shiga Prefecture, Japan)
- P5 "Bandgap engineering using quantum-size-effect-tuned heterojunctions"  
Chao Ding, Yaohong Zhang, Shuzi Hayase, Yuhei Ogomi, Taro Toyoda, and Qing Shen (The University of Electro-Communications, Kyushu Institute of Technology, and JST-CREST, Japan; China Scholarship Council, China)
- P6 "Air Stable PbSe Quantum Dot solar cell: From Device Fabrication, Storage to Measurements"  
Y. Zhang, C. Ding, G. Wu, Y. Ogomi, T. Toyoda, S.i Hayase, and Qing Shen (The University of Electro-Communications, Nihon University, Kyushu Institute of Technology, and CREST, Japan)
- P7 "High Dynamic Range Image Compression Using Improved Logarithmic Transformation"  
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- P8 ""Motion Voice Synthesizer" Road to New Human-Computer Interface ~The 2nd step: Mouth Motion EMG to Voice Phonation ~"  
Hideo Oi (Toyohashi University of Technology, Japan)
- P9 "Electro-plasmonic modulator based on a metal-oxide-semiconductor structure"  
M. Ito, S. Higuchi, Y. Ishii, and M. Fukuda (Toyohashi University of Technology, Japan)
- P10 "Frame Interpolation Method for Low Frame Rate Videos"  
K. Yoshida, and X. Zhang (The University of Electro-Communications, Japan)
- P11 "Improvement of Search Algorithm for Motion Compensation in Video Coding"  
J. Gao, and X. Zhang (The University of Electro-Communications, Japan)
- P12 "A novel innervation zone estimation method from surface myoelectric signals"  
A. Shirai, T. Mizuno, N. Itakura, and K. Mito (The University of Electro-Communications, Japan)
- P13 "Smartphone-based Platform for Medical Diagnostics"  
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- P14 "Tunable color filter using guided mode resonance structures"  
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- P15 "Development of a fish-type fin propulsor with flexible body"  
H. Ohashi, K. Hosotani, and S. Ando (National Institute of Technology, Tsuyama College, Japan)
- P16 "Underwater propulsive performance of the notched Mecanum wheel"  
K. Takushi, K. Hosotani, and Y. Fuzihara (National Institute of Technology, Tsuyama College, Japan)
- P17 "Small immunoassay systems for medical diagnosis and environmental analysis"  
T. Kobayashi, Y. Yoshimasa, and Y. Utsumi (National Institute of Technology, Tsuyama College, Japan)

- P18 "Preparation of Graphite Dispersed Copper Composite with Intruding Graphite Particles in Copper Plate"  
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- P19 "Mode dependent spatial intensity correlations in scattered light beams"  
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- P21 "Towards the fabrication of low-cost light-emitting pressure sensors"  
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- P26 "Reliability of Dual and Triple Frequency Ionosphere-free Linear Combination of GPS for Single Point Positioning"  
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- P35 "Electronic Structures, Optical and Magnetic Properties of Multi-Decker Phthalocyanines"  
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- P36 "Effects of metal phthalocyanine as hole-transporting materials on photovoltaic properties of perovskite solar cells"  
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- P37 "Biosensing by digital image processing based detection of fluorescent magnetic nanolabels and micro-current coils for reduction of non-specific interactions"  
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- P38 "Generation of induced pluripotent stem cells by water-in-oil droplet electroporation"  
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- P40 "Surface functionalization of magnetotactic bacteria for precise transportation of tiny loadings"  
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- P72 "Computational neural network model of synergistic work of the cerebellum and the basal ganglia for temporal information processing"  
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- P74 "Study on the thermal stress analysis technology of nuclear-related equipment"  
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