

2019 URSI-Japan Radio Science Meeting (URSI-JRSM 2019)

The University of Electro-Communications, Tokyo, Japan

September 5-6, 2019

Program



Sponsored by:

- The Institute of Electronics, Information and Communication Engineers (IEICE)

Technically supported by:

- International Union of Radio Science (URSI)

In cooperation with:

- Japan Geoscience Union

- The Institute of Electrical Engineers of Japan

- Science Council of Japan

- The Laser Society of Japan

- Society of Atmospheric Electricity of Japan

- The Remote Sensing Society of Japan

- The Astronomical Society of Japan

Sponsorships

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- The Remote Sensing Society of Japan

(in alphabetical order)

Conference Organization

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(President, Japan National Committee of URSI)

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Secretariat

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Program and Time Table

Thursday, September 5, 2019

9:00 Opening Ceremony

9:15 Invited Lecture 1 (Commission B)

Chair: Toru Uno (Tokyo University of Agriculture and Technology, Japan)

Makoto Ando (National Institute of Technology (KOSEN))

“100 Years History of URSI and Commission B”

9:45 Invited Lecture 2 (Commission G)

Chair: Mamoru Yamamoto (Kyoto University, Japan)

Mamoru Ishii (Space Environment Laboratory, National Institute of Information and Communications Technology, Japan)

“Global Streams of Space Weather Research and Operation and the Role of Asia”

10:15 Coffee Break

10:45 Keynote Lecture

Chair: Yasuhide Hobara (The University of Electro-Communications, Japan)

Masashi Hayakawa (Hayakawa Institute of Seismo Electromagnetics, The University of Electro-Communications, Japan)

“Study of Radio Noise for 45 Years”

11:30 Invited Lecture 3 (Commission D)

Chair: Hiroyuki Toda (Doshisha University, Japan)

Tetsuya Kawanishi (Waseda University, Japan)

“Wired and Wireless Seamless Networks for Public Transportation Infrastructure”

12:00 Invited Lecture 4 (Commission F)

Chair: Motoyuki Sato (Tohoku University, Japan)

Wataru Yamada (Nippon Telegraph and Telephone, Japan)

“Recent Topics of Standardization on Radiowave Propagation Field”

12:30 Lunch / Exhibition / Technical Tour: UEC Communication Museum / Business Meetings

14:00 Oral Sessions 1 (Commissions A-K Parallel)

15:15 Coffee Break

15:45 Poster Session / Exhibition

18:45 Banquet

Friday, September 6, 2019

9:30 Invited Lecture 5 (Commission K)

Chair: Jianqing Wan (Nagoya Institute of Technology, Japan)

Shoogo Ueno (The University of Tokyo, Japan)

“New Horizons in Electromagnetics in Medicine and Biology”

10:00 Invited Lecture 6 (Commission E)

Chair: Yasuhide Hobara (The University of Electro-Communications, Japan)

Tomoo Ushio (Tokyo Metropolitan University, Japan), Mitsuteru Sato (Hokkaido University, Japan), Takeshi Morimoto (Kindai University, Japan)

“Optical and Radio Observation of Lightning from Space”

10:30 Coffee Break

11:00 SPC (Student Paper Competition) Special Session

12:15 Lunch / Exhibition / Technical Tour: UEC Communication Museum / Business Meetings

14:00 Oral Sessions 2 (Commissions A-K Parallel)

15:15 Coffee Break

15:45 Invited Lecture 7 (Commission A)

Chair: Masami Yasuda (National Institute of Advanced Industrial Science and Technology, Japan)

Tetsuya Ido (National Institute of Information and Communications Technology, Japan)

“Application of Optical Clocks toward Real-Time Generation of a Time Scale”

16:15 Invited Lecture 8 (Commission C)

Chair: Makoto Taromaru (Fukuoka University, Japan)

Nobuyoshi Kikuma (Nagoya Institute of Technology, Japan)

“History of Adaptive Array Antenna”

16:45 Coffee Break

17:00 Invited Lecture 9 (Commission H)

Chair: Yoshiya Kasahara (Kanazawa University, Japan)

Yoshizumi Miyoshi (Nagoya University, Japan), Yoshiya Kasahara (Kanazawa University, Japan), Hirotsugu Kojima (Kyoto University, Japan), Ayako Matsuoka, Iku Shinohara (Japan Aerospace Exploration Agency, Japan)

“Multiple Roles of Plasma Waves in Geospace and Radiation Belts: Arase Observations”

17:30 Invited Lecture 10 (Commission J)

Chair: Kenta Fujisawa (Yamaguchi University, Japan)

Yoshinori Uzawa (National Astronomical Observatory of Japan, Japan)

“Superconducting Receiver Technologies Supporting ALMA and Future Prospects”

18:00 SPC Award Ceremony / Closing Ceremony

Conference Room Information:

Opening Ceremony	Building B, B201
Keynote Lecture and Invited Lectures	Building B, B201
Closing Ceremony	Building B, B201
Oral Sessions	Building A
Poster Session	Building B, Hall
Exhibition	Building B, Hall
Technical Tour	UEC Communication Museum
Banquet.....	University Center
Commission Business Meetings	Building A

List of Oral Papers

Commission A: Electromagnetic metrology

Thursday, September 5, 2019

Oral Session 1: History of Commission A, JNC-URSI

Building A, Room A302

Chair: Masami Yasuda (AIST, Japan)

- 14:00 A1-1 General Relativity and Its Some Measurable Effects**
Mizuhiko Hosokawa (NICT, Japan)
- 14:30 A1-2 Historical Evolution of URSI Commission A**
Yasuhiro Koyama (NICT, Japan)
- 14:45 A1-3 Frequency standard in THz-region using molecular ions**
Masatoshi Kajita (NICT, Japan)

Friday, September 6, 2019

Oral Session 2: Advances and Perspective of Commission A, JNC-URSI

Building A, Room A302

Chair: Masami Yasuda (AIST, Japan)

- 14:00 A2-1 Arbitrary Manipulation of An Optical Waveform and Its Measurement**
Akihiro Tomura, Chiaki Ohae (Univ. of Electro-Communications, Japan), Kaoru Minoshima, Masayuki Katsuragawa (Univ. of Electro-Communications, JST ERATO MINOSHIMA Intelligent Optical Synthesizer Project, Japan)
- 14:15 A2-2 Ultra-broadband Bidirectional Dual-Comb Fiber Laser**
Yoshiaki Nakajima, Yuya Hata, Yugo Kusumi, Kaoru Minoshima (The Univ. of Electro-Communications, JST, ERATO MINOSHIMA Intelligent Optical Synthesizer Project, Japan)
- 14:30 A2-3 Recent research activities on optical lattice clocks at NMIJ, AIST**
Takumi Kobayashi, Daisuke Akamatsu, (NMIJ, AIST, Japan), Yusuke Hisai (Yokohama National Univ., Japan),; Takehiko Tanabe, Hajime Inaba, Tomonari Suzuyama (NMIJ, AIST, Japan), Feng-Lei Hong (Yokohama National Univ. Japan), Kazumoto Hosaka, Masami Yasuda (NMIJ, AIST, Japan)
- 14:45 A2-4 Development of Antenna Gain Calibration System in 300 GHz Frequency Band**
Michitaka Ameya, Satoru Kurokawa (AIST, Japan)

Commission B: Fields and waves

Thursday, September 5, 2019

Oral Session 1: Advances and Perspective of Commission B, JNC-URSI (1)

Building A, Room A101

Chair: Toru Uno (Tokyo University of Agriculture and Technology, Japan)

- 14:00 (Invited) B1-1 The Wiener-Hopf Technique for the Solutions of Canonical Scattering Problems**
Takashi Nagasaka, Kazuya Kobayashi (Chuo Univ., Japan)
- 14:20 (Invited) B1-2 History of Technical Meeting on Electromagnetic Theory in IEEJ and IEICE**
Tsuneki Yamasaki (Nihon Univ., Japan)
- 14:40 (Invited) B1-3 Analysis on Floquet Modes of Groove Gap Waveguide**
Jiro Hirokawa, Keisuke Ejiri, Takashi Tomura (Tokyo Institute of Technology, Japan)
- 15:00 (Invited) B1-4 Study on Transient Scattered Magnetic Field from a Coated Conducting Cylinder with a Thick Dielectric Medium**
Keiji Goto (National Defense Academy, Japan)

Friday, September 6, 2019

Oral Session 2: Advances and Perspective of Commission B, JNC-URSI (2)

Building A, Room A101

Chair: Naobumi Michishita (National Defense Academy, Japan)

- 14:00 (Invited) B2-1 Antenna technology towards 5G and beyond**
Keizo Cho (Chiba Institute of Technology, Japan)
- 14:20 (Invited) B2-2 5G Antenna Development and Measurement**
Hiroyuki Arai (Yokohama National Univ., Japan)
- 14:40 (Invited) B2-3 Feature extraction from radar signatures based on scattering mechanisms and its application to target identification and nondestructive inspection**
Masahiko Nishimoto (Kumamoto Univ., Japan)
- 15:00 (Invited) B2-4 Location estimation technique for in-body devices using RSS**
Masaharu Takahashi (Chiba Univ., Japan)

Commission C: Radiocommunication systems and signal processing

Thursday, September 5, 2019

Oral Session 1: History of Signal Processing and Systems Related to Commission C, JNC-URSI

Building A, Room A301

Chair: Makoto Taromaru (Fukuoka Univ., Japan)

- 14:00 C1-1 History of Radio Communication Systems and Radio Signal Processing in Japan**
Makoto Taromaru (Fukuoka Univ., Japan)
- 14:15 C1-2 Source coding based on appearance probability and importance of packets in**

wireless feedback control system

Yuki Negishi, Takahiro Goto, Ryuji Kohno (Yokohama National Univ., Japan)

14:30 C1-3 Performance of Adaptive Sideband Selection in a Periodic Interference Canceller

Satoshi Denno, Yuya Kimura, Yafei Hou (Okayama Univ., Japan)

14:45 C1-4 Capacitive coupling wireless power transfer system for drone charging stations

Satoshi Tsukamoto, Shinji Abe, Takashi Ohira (Toyohashi Univ. of Technology, Japan), Genyo Ueda, Hiroyuki Nozaki, Hiroshi Hamada (Tokyo Electric Power Company Holdings, Inc.)

Friday, September 6, 2019

Oral Session 2: Advances and Perspectives of Commission C, JNC-URSI

Building A, Room A301

Chair: Makoto Taromaru (Fukuoka Univ., Japan)

14:00 C2-1 Terahertz Electromagnetic Emission in an Asymmetric Dual-Grating-Gate InGaAs High-Electron-Mobility Transistor Stimulated by Plasmonic Instability

Takayuki Watanabe, Tomotaka Hosotani, Akira Satou, Taiichi Otsuji (Tohoku Univ., Japan)

14:15 C2-2 Influence of Estimation Error of Characteristic Impedance on Device Characteristics in On-Wafer Multiline TRL

Kyoya Takano, Yohtaro Umeda (Tokyo Univ. of Science, Japan)

14:30 C2-3 Power and Phase Calibration in Software Defined Radio based Receivers for Measurement of Channel Gain in Spectrum Sharing

Deepak Gautam, Jun-ichi Takada, Kentaro Saito (Tokyo Institute Technology, Japan)

14:45 C2-4 Utilizing Doppler Frequency of Wi-Fi Channel State Information to Trace Trajectory of Hand Gesture

Nopphon Keerativoranan, Kentaro Saito, Jun-ichi Takada (Tokyo Institute of Technology, Japan)

Commission D: Electronics and Photonics

Thursday, September 5, 2019

Oral Session 1: Electronics & Photonics (1)

Building A, Room A303

Chair: Hiroyuki Toda (Doshisha University, Japan)

14:00 (Invited) D1-1 One-Terahertz-wide, 10-Gigahertz-spaced, Mode-locked-diode-laser-induced, Optical-frequency-comb-line Components each of whose line-widths is Inherently Stabilized to that (2 MHz) of Internal Continuous-wave Seed Light

Yoshiyasu Ueno (Univ. of Electro-Communications, Japan)

14:15 (Invited) D1-2 Phase-Reconstruction Schemes for Optical Fiber Communications Using Direct Detection

Masayuki Matsumoto (Wakayama Univ., Wakayama, Japan)

14:30 (Invited) D1-3 Photonic-assisted Millimeter Wave Radar for FOD Detection on Runways

Naruto Yonemoto (National Institute of Maritime, Port and Aviation Technology, Japan)

14:45 (Invited) D1-4 Millimeter-wave Wireless Signal-Lightwave Signal Conversion Device Using Antenna-Integrated Electro-Optic Modulators

Hiroshi Murata (Mie Univ., Japan)

15:00 D1-5 Output Power Enhancement in Photonic-Based RF Generation by Optical Pulse Compression with a Dispersion Managed Fiber: Toward 300 GHz Broadband Generation

Kohei Kudomi, Keisuke Oda, Ryogo Katagiri, Masayuki Suzuki, Hiroyuki Toda (Doshisha Univ, Japan)

Friday, September 6, 2019

Oral Session 2: Electronics & Photonics (2)

Building A, Room A303

Chair: Naoki Shinohara (Kyoto University, Japan)

14:00 (Invited) D2-1 Photonic Crystal Platform for Terahertz Science and Technology

Masayuki Fujita (Osaka Univ., Japan)

14:15 (Invited) D2-2 Photonic Time Stretch Measurement for Ultrafast Mode-Locked Fiber Laser

Masayuki Suzuki (Doshisha Univ., Japan)

14:30 D2-3 Recent Trend in Microwave Sources for Microwave Heating Applications

Tomohiko Mitani (Kyoto Univ., Japan)

14:45 D2-4 Highly Isolated Dual-Band WPT System for Concurrent Transfer of Wireless Power and Data to Biomedical Implants

Adel Barakat, Shima Alshhaway, Kuniaki Yoshitomi, Ramesh K. Pokharel (Kyushu Univ., Japan)

15:00 D2-5 Recent Progress of Wireless Power Transfer in Japan and in Kyoto University

Naoki Shinohara (Kyoto Univ., Japan)

Commission E: Electromagnetic environment and interference

Thursday, September 5, 2019

Oral Session 1: History, Advances and Perspective of Commission E, JNC-URSI (1)

Building A, Room A401

Chair: Hiroshi Kikuchi (The University of Electro-Communications, Japan)

14:00 (Invited) E1-1 Study of ionosphere modification prior to large earthquake by using satellite data

Koichiro Oyama (National Cheng Kung Univ., Taiwan; Kyushu Univ., Japan; Coltd. Asia Space Environment Research Consortium, Japan)

14:20 (Invited) E1-2 Three-dimensional lightning mapping using low-frequency radio waves

Ting Wu, Daohong Wang, Dongdong Shi, Nobuyuki Takagi (Gifu Univ., Japan)

14:40 E1-3 Lightning Applications to Natural Hazard Mitigation

Yasuhide Hobara (The Univ. of Electro-Communications, Japan)

15:00 E1-4 Global Distributions of Lightning Electrical Characteristics Estimated by Optical Observation from International Space Station

Ryunosuke Kitamura, Yasuhide Hobara, Hiroshi Kikuchi (The Univ. of Electro-Communications, Japan), Mitsuteru Sato, Yukihiro Takahashi (Hokkaido Univ., Japan), Toru Adachi (Meteorological Research Institute, Japan), Tomoo Ushio (Tokyo Metropolitan Univ., Japan), Makoto Suzuki (Japan Aerospace Exploration Agency, Japan)

Friday, September 6, 2019

Oral Session 2: History, Advances and Perspective of Commission E, JNC-URSI (2)

Building A, Room A401

Chair: Yasuhide Hobara (The University of Electro-Communications, Japan)

14:00 (Invited) E2-1 VHF Electromagnetic Observation of Lightning from Space ~Summary of Lightning Observations in Maid-1 and JEM-GLIMS Projects~

Takeshi Morimoto (Kindai Univ., Japan), Hiroshi Kikuchi (The Univ. of Electro-Communications), Tomoo Ushio (Tokyo Metropolitan Univ.), Mitsuteru Sato (Hokkaido Univ.)

14:20 (Invited) E2-2 Characteristics of Optical Lightning Waveforms Observed by Photometers on the International Space Station

Hiroshi Kikuchi, Yasuhide Hobara (The Univ. of Electro Communications, Japan), Mitsuteru Sato (Hokkaido Univ., Japan); Takeshi Morimoto (Kindai Univ., Japan)

14:40 (Invited) E2-3 Numerical Simulation of ULF/SLF/ELF Electromagnetic Waves Propagating in the Lithosphere by Using WLP-FDTD Method

Yoshiaki Ando (The Univ. of Electro-Communications, Japan)

15:00 E2-4 Improving F-layer Critical frequency deduced from Fractional Hop Lightning Whistlers

Shu Hirai, Yasuhide Hobara (The Univ. of Electro-Communications, Japan), Jean-Louis Pincon, Michel Parrot (LPC2E CNRS/ University of Orleans, France)

Commission F: Wave propagation and remote sensing

Thursday, September 5, 2019

Oral Session 1: Past and Future of Remote sensing technology in Commission F, JNC-URSI

Building A, Room A402

Chair: Shinichi Ichitsubo (Kyushu Institute of Technology, Japan)

14:00 F1-1 Radio Wave Propagation in Different Underwater Media for UWSN Deployment

Raynell A. Inojosa, Kentaro Saito, Jun-ichi Takada (Tokyo Institute of Technology, Japan)

14:15 F1-2 Comparison of Ray-Launching Based Simulation Method for Path Loss Prediction

in Sub-Urban Environment on 28GHz Band

Kosuke Murakami, Jun-ichi Takada, Kentaro Saito (Tokyo Institute of Technology, Japan), Akio Ikami, Yoshiaki Amano (KDDI Research, Inc., Japan)

14:30 F1-3 Observation of Volcanic Column Heights Using a Marine Radar

Takehiko Kobori, Masayuki Maki, (Kagoshima Univ., Japan), Hidehiko Tokushima (Field ResearcherS corporation CO., LTD., Japan), Seiji Fukushima (Kagoshima Univ., Japan)

14:45 F1-4 Variation of the Rician K-factor in the Radio Wave Propagation of a Subway Tunnel

Satoshi Nishida (Tokyo Institute of Technology, Japan; Kyosan Electric Manufacturing Co., Ltd. Japan), Jun-ichi Takada (Tokyo Institute of Technology, Japan); Tossaporn Srisooksai (Kyosan Electric Manufacturing Co., Ltd. Japan)

Friday, September 6, 2019

Oral Session 2: Past and Future of EM propagation research in Commission F, JNC-URSI

Building A, Room A402

Chair: Shinichi Ichitsubo (Kyushu Institute of Technology, Japan)

14:00 F2-1 Historical Review of Propagation Research in Japan

Yoshio Karasawa (Univ. Electro-Communications, Japan)

14:30 F2-2 Progress of cloud and precipitation observation by radar

Nobuhiro Takahashi (Nagoya University, Japan)

Commission G: Ionospheric radio and propagation

Thursday, September 5, 2019

Oral Session 1: History of Commission G, JNC-URSI

Building A, Room A102

Chair: Mamoru Yamamoto (Kyoto Univ., Japan)

14:00 G1-1 Hiraiso Observatory -The Japanese root of mobile telecommunications –

Mamoru Ishii, Yuki Kubo, Mitsue Den (NICT, Japan)

14:20 G1-2 History and current status of ionospheric radio observations by UEC

Keisuke Hosokawa (Univ. of Electro-Communications, Japan)

14:40 G1-3 History and Progress of Japanese SuperDARN Project

Natsuo Sato (National Institute of Polar Research, Japan), Tadahiko Ogawa (NICT, Japan), Hisao Yamagishi, Akira Sessai Yukimatu (National Institute of Polar Research, Japan); Nozomu Nishitani, Takahsi Kikuchi (Nagoya Univ., Japan), Kenro Nozaki, Tsutom Nagtsuma (NICT, Japan)

15:00 G1-4 Studies of Ionospheric Disturbances Using Total Electron Content obtained from GNSS receiver networks: Activity in Japan

Yuichi Otsuka (Nagoya Univ., Japan)

Friday, September 6, 2019

Oral Session 2: Advances and Perspective of Commission G, JNC-URSI

Building A, Room A102

Chair: Mamoru Yamamoto (Kyoto Univ., Japan)

- 14:00 G2-1 A three-year review of HF radio propagation simulator development**
Kornyanat Hozumi (National Institute of Information and Communications Technology, Japan); Hiroyuki Nakata (Chiba University, Japan); Susumu Saito (National Institute of Maritime, Japan); Takashi Maruyama (National Institute of Information and Communications Technology, Japan); Ryo Nakao (Chiba University, Japan); Takuya Tsugawa, Mamoru Ishii (National Institute of Information and Communications Technology, Japan)
- 14:15 G2-2 Utilizing 4D-var technique to image South African regional ionosphere**
Nicholas Ssessanga (Kyoto Univ., Japan), Yong Ha Kim (Chungnam National Univ., Korea), Mamoru Yamamoto (Kyoto Univ., Japan); John Bosco Habarulema (South African National Space Agency, South Africa; Rhodes University, South Africa)
- 14:30 G2-3 Sounding Rocket Observation of the Mid-Latitude Ionosphere in Japan**
Takumi Abe (Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency, Japan)
- 14:45 G2-4 Characteristics of temporal and spatial evolutions of storm-time ionospheric disturbances using global total electron content obtained from GNSS receiver network**
Atsuki Shinbori (Nagoya Univ., Japan)
- 15:00 G2-5 Solar flare effects of the D-region ionosphere using daytime tweek atmospherics**
Hiroyo Ohya, Kodai Yamanobe (Chiba Univ., Japan), Kazuo Shiokawa, Yoshizumi Miyoshi (Nagoya Univ., Japan), Fuminori Tsuchiya (Tohoku Univ., Japan), Kozo Yamashita (Ashikaga Univ., Japan), Yukihiro Takahashi (Hokkaido Univ., Japan)

Commission H: Waves in plasmas

Thursday, September 5, 2019

Oral Session 1: History, advances and perspectives in theory and computer simulations on plasma and radio waves

Building A, Room A202

Chair: Yoshiya Kasahara (Kanazawa Univ., Japan)

- 14:00 (Invited) H1-1 Particle Simulation on Spacecraft-Plasma Interaction and its Application to Airless Bodies in Space**
Hideyuki Usui (Graduate School of System Informatics, Kobe Univ., Japan), Yohei Miyake (Education Center on Computational Science and Engineering, Kobe Univ., Japan)

- 14:15 (Invited) H1-2 Theory and computer simulations on whistler-mode chorus emissions and related wave-particle interactions in planetary magnetospheres**
Yuto Katoh (Tohoku Univ., Japan)
- 14:30 H1-3 Electron acceleration associated with waves in collisionless shocks**
Takanobu Amano (Univ. of Tokyo, Japan), Yosuke Matsumoto (Chiba Univ., Japan), Masahiro Hoshino (Univ. of Tokyo, Japan)
- 14:45 H1-4 Direct detection of nonlinear generation process of electromagnetic ion cyclotron emissions observed by the Arase spacecraft**
Masafumi Shoji (Nagoya Univ., Japan)
- 15:00 H1-5 Extremely Low Frequency Whistler Mode Wave above the Polar Region of the Moon Detected by Kaguya**
Tomoko Nakagawa (Tohoku Institute of Technology, Japan), Futoshi Takahashi (Kyushu Univ., Japan), Hisayoshi Shimizu (Univ. of Tokyo, Japan), Yoshifumi Saito (Institute of Space and Astronautical Science, JAXA, Japan)

Friday, September 6, 2019

Oral Session 2: History, advances and perspectives in space observation and experiment of plasma and radio waves

Building A, Room A202

Chair: Yoshiya Kasahara (Kanazawa Univ., Japan)

- 14:00 (Invited) H2-1 Electromagnetic Radio Wave Receiver onboard Japanese Sounding Rocket**
Keigo Ishisaka (Toyama Prefectural Univ., Japan)
- 14:15 (Invited) H2-2 History and foresight of plasma wave observation systems in Japanese space missions**
Hirotsugu Kojima (Kyoto Univ., Japan)
- 14:30 H2-3 The phase velocity of m-size plasma waves in the ionospheric E region.**
Jean-Pierre St-Maurice (Nagoya Univ., Japan)
- 14:45 H2-4 Severely Eroded Plasmasphere During a Moderate Space Weather Storm**
Yuki Obana (Osaka Electro-Communication Univ., Japan), Naomi Maruyama, Mariangel Fedrizzi (Univ. of Colorado Boulder / NOAA Space Weather Prediction Center, USA), Atsuki Shinbori, Masahito Nose, Yuichi Otsuka, Nozomu Nishitani, Tomoaki Hori, Yoshizumi Miyoshi (Nagoya Univ., Japan), Kumiko K Hashimoto (Kibi International Univ., Japan), Atsushi Kumamoto (Tohoku Univ., Japan), Fuminori Tsuchiya (PPARC, Tohoku Univ., Japan), Shoya Matsuda, Ayako Matsuoka, Iku Shinohara (Institute of Space and Astronautical Science, JAXA, Japan), Yoshiya Kasahara (Kanazawa Univ., Japan), Akimasa Yoshikawa (Kyushu Univ., Japan)
- 15:00 H2-5 Study on the propagation characteristics of lightning whistlers simultaneously observed by the Arase and Van Allen Probes**

Y. Kasahara, Y. Ogawa, S. Ikarashi, Y. Hayashi (Kanazawa Univ., Japan), S. Matsuda (ISAS/JAXA, Japan), Y. Miyoshi (Nagoya Univ., Japan), F. Tsuchiya, A. Kumamoto (Tohoku Univ., Japan), M. Hikishima, A. Matsuoka (ISAS/JAXA, Japan), O. Santolik (The Czech Academy of Sciences / Charles University, Czechia), I. Kolmasova (The Czech Academy of Sciences, Czechia), G. Hospodarsky, C. Kletzing (Univ. of Iowa, USA), C. Colpitts, J. Wygant (Univ. of Minnesota, USA)

Commission K: Electromagnetics in biology and medicine

Thursday, September 5, 2019

Oral Session 1: Recent Research Trends in Bioelectromagnetics (1)

Building A, Room A403

Chair: Masaki Sekino (The University of Tokyo, Japan)

- 14:00 (Invited) K1-1 Introduction to Trends of ETSI SmartBAN**
Daisuke Anzai (Nagoya Institute of Technology, Japan)
- 14:15 (Invited) K1-2 Single-coil Dual-band Antenna for Wireless Capsule Endoscopic Communication**
Yunxiao Peng (Graduate School of Science and Engineering Chiba Univ., Japan), Kazuyuki Saito, Koichi Ito (Center for Frontier Medical Engineering Chiba Univ., Japan)
- 14:30 (Invited) K1-3 Advanced Techniques for Electric Field Measurements of Multi-Antenna Transmitters in Compliance Tests**
Dinh Thanh Le, Soichi Watanabe, Kun Li (NICT, Japan)
- 14:45 (Invited) K1-4 An Assessment of Incident Power Density Using Near-Field Reconstruction Algorithm at Millimeter-Wave Frequencies**
Kensuke Sasaki, Kun Li, Soichi Watanabe, Kanako Wake (NICT, Japan)

Friday, September 6, 2019

Oral Session 2: Recent Research Trends in Bioelectromagnetics (2)

Building A, Room A403

Chair: Satoshi Nakasono (Central Research Institute of Electric Power Industry, Japan)

- 14:00 (Invited) K2-1 Stimulation of cultured neuron cells by electric field or extremely low frequency magnetic field exposure observed by real-time detection system**
Masateru Ikehata, (Railway Technical Research Institute, Japan), Yukihisa Suzuki, Kei Makino, Keiji Wada (Tokyo Metropolitan Univ., Japan), Atsushi Saito (Central Research Institute of Electric Power Industry), Sachiko Yoshie (Railway Technical Research Institute), Satoshi Nakasono (Central Research Institute of Electric Power Industry)
- 14:15 (Invited) K2-2 Standardized methods for the evaluation of human exposure to extremely low- and intermediate-frequency electric and magnetic fields**
Kenichi Yamazaki (Central Research Institute of Electric Power Industry, Japan)

- 14:30 (Invited) K2-3 Magnetic Field Measurement of Electronic Article Surveillance**
Ken Sato (National Institute of Technology, Hachinohe College, Japan), Yoshitsugu Kamimura (Utsunomiya Univ., Japan)
- 14:45 (Invited) K2-4 Recent Advances in Computational Human Model for EMF Simulations**
Tomoaki Nagaoka (NICT, Japan)
- 15:00 (Invited) K2-5 Investigation of the thresholds for ocular damage caused by MMW exposure from 30GHz to 160GHz by experimental and numerical approach**
Yukihisa Suzuki (Tokyo Metropolitan Univ., Japan), Masami Kojima, Takafumi Tasaki (Kanazawa Medical Univ., Japan), Yoshinori Tatematsu, Masafumi Fukunari, (Univ. of Fukui, Japan), Maya Mizuno, Kensuke Sasaki, Soichi Watanabe, (NICT, Japan), Masao Taki (Tokyo Metropolitan Univ., Japan), Masahiko Tani (Univ. of Fukui, Japan), Hiroshi Sasaki (Kanazawa Medical Univ., Japan)

List of Poster Papers

Thursday, September 5, 2019

15:45 – 18:30

Chairs: Shinichiro Ohnuki (Nihon Univ., Japan)

Keigo Ishisaka (Toyama Prefectural Univ., Japan)

Student Paper Competition

SPC-1 Performance Improvement of Resonator-Coupled type Wireless Power Transfer System using Dual-Spiral Resonator with Angular Misalignments

Nur Syafiera Azreen Binti Norodin, Masashi Hotta (Yamaguchi Univ., Japan)

SPC-2 Point Cloud Generation from User Camera Data for Radio Propagation Simulation

Zhihang CHEN, Kentaro Saito (Tokyo Institute of Technology, Japan), Wataru Okamura, Yukiko Kishiki (Kozo Keikaku Engineering Inc., Japan), Jun-ichi Takada (Tokyo Institute of Technology, Japan)

SPC-3 Calculation of the ray paths and propagation times of HF radio waves using the simulator of HF-START project.

Ryo Nakao, Hiroyuki Nakata, Hiroyo Ohya, Toshiaki Takano (Chiba Univ., Japan); Kornyanat Hozumi, Takuya Tsugawa (NICT, Japan); Susumu Saito (Electronic Navigation Research Institute, Japan); Mamoru Ishii (NICT, Japan)

SPC-4 Variations in the D-region ionosphere associated with volcanic eruptions observed by VLF/LF standard radio waves

Kei Maruyama (Chiba Univ., Japan)

SPC-5 ULF Modulation of Energetic Electron Precipitations Observed by VLF/LF Standard Radio Waves

Takuya Miyashita, Hiroyo Ohya (Chiba Univ., Japan), Fuminori Tsuchiya (Tohoku Univ.), Hiroyuki Nakata, Toshiaki Takano (Chiba Univ., Japan), Kazuo Shiokawa, Yoshizumi Miyoshi, Nozomu Nishitani (Nagoya Univ., Japan), Martin Connors (Athabasca Univ., Canada), Simon G Shepherd (Dartmouth College, USA)

SPC-6 Improvement of Radiation and Temperature Tolerance on ASIC Waveform Receiver for Probing Space Plasma Waves

Yuya Tokunaga, Mitsunori Ozaki, Satoshi Yagitani, Daisuke Yonetoku (Kanazawa Univ., Japan), Takahiro Zushi (National Institute of Technology, Nara College, Japan), Hirotsugu Kojima (Kyoto Univ., Japan)

SPC-7 Automatic Detection and Statistical Analysis of Lightning Whistlers Observed by the Plasma Wave Experiment (PWE) onboard the Arase Satellite

Umar Ali Ahmad, Yoshiya Kasahara (Kanazawa Univ., Japan), Shoya Matsuda (Institute of Space and Astronautical Science, JAXA, Japan), Mitsunori Ozaki, Yoshitaka Goto (Kanazawa Univ., Japan)

Commission A: Electromagnetic metrology

AP-1 Odd-isotope-selective photoionization loading and laser cooling of single $^{137}\text{Ba}^+$ ions

Hiroto Fujisaki, Keisuke Nishida, Yasutaka Imai, Takashi Moriya, Kazuhiko Sugiyama (Kyoto Univ., Japan)

Commission B: Fields and waves

BP-1 Cylindrical Cloak by Controlling Arrangement Density of Multi Layer Ceramic Capacitors

Thanh Binh Nguyen, Naobumi Michishita, Hisashi Morishita (National Defense Academy, Japan); Teruki Miyazaki, Masato Tadokoro (The Yokohama Rubber Co., Ltd., Japan)

BP-2 Plane Wave Diffraction by a Strip with Fractional Boundary Conditions

Takashi Nagasaka, Kazuya Kobayashi, (Chuo Univ., Japan)

BP-3 FDTD Modeling Method of a Dipole Antenna above Metasurface Using Surface Impedance Boundary Condition

Akihide Kurahara, Toru Uno, Takuji Arima (Tokyo Univ. of Agriculture and Technology, Japan)

BP-4 Radiation Pattern of On-glass Antenna Located on Ground Surface

Ryoya Ishihara, Toru Uno, Takuji Arima, Yujiro Kushiyama (Tokyo Univ. of Agriculture and Technology, Japan), Osamu Kagaya (AGC Inc., Japan)

BP-5 Reconstruction of Electromagnetic Fields Using Finite Element Method

Yohei Yamashita, Toru Uno, Takuji Arima (Tokyo Univ. of Agriculture and Technology, Japan)

BP-6 PML Absorbing Boundary Condition for Magnetized Plasma

Koji Iwasaki, Toru Uno, Takuji Arima (Tokyo Univ. of Agriculture and Technology, Japan)

BP-7 Development of Permittivity and Permeability Measurement System for Periodic Metamaterial

Shotaro Oka, Toru Uno, Takuji Arima (Tokyo Univ. of Agriculture and Technology, Japan)

BP-8 Study on Radiation Efficiency Measurement of an Antenna with Improved Wheeler Cap Method

Koji Yokoo, Toru Uno, Takuji Arima, Yujiro Kushiya (Tokyo Univ. of Agriculture and Technology, Japan)

BP-9 Doppler Spectrum Analyzing of Sea Surface Using MR-FDTD Method

Hiroki Kobayashi, Toru Uno (Tokyo Univ. of Agriculture and Technology, Japan), Satoshi Fujii (Univ. of the Ryukyus, Japan), Takuji Arima (Tokyo Univ. of Agriculture and Technology, Japan)

BP-10 Study on Miniaturization of Bowtie Antenna with Folded Structure and Slit for Ground Penetrating Radar

Hikaru Takizawa, Kazuya Matsubayashi, Naobumi Michishita, Hisashi Morishita (National Defense Academy, Japan); Kenji Kawabata (Fujitsu Limited, Japan)

BP-11 A Study of Antenna with Robustness to Metal for Installation on Metal Walls

Yuta Nakagawa, Naobumi Michishita, Hisashi Morishita (National Defense Academy, Japan)

BP-12 Analysis of Near-Field Electromagnetic Fields and Poynting Vector Scattered by Metasurface Absorber

Fajri Darwis, Satoshi Yagitani, Mitsunori Ozaki, Tomohiko Imachi (Kanazawa Univ., Japan)

BP-13 Electrostatic Field Analysis of Airplane in Flight Near Thundercloud for Lightning Prediction

Kento Onuki, Toru Uno, Takuji Arima (Tokyo Univ. of Agriculture and Technology, Japan)

BP-14 A Broadband Printed Antenna Having Radiation Patterns of A Dipole Antenna

Itsuki Sasaki (National Defense Academy, Japan), Tuan Hung Nguyen (Le Quy Don Technical Univ., Vietnam), Yuta Nakagawa, Hisashi Morishita (National Defense Academy, Japan)

BP-15 A Folded Monopole Antenna Having Variable Impedance Characteristic by Using Switching Element

Cong Oai Nguyen, Yuta Nakagawa, Naobumi Michishita, Hisashi Morishita (National Defense Academy, Japan)

BP-16 Multiscale Modeling for Electromagnetic Field and Magnetization Dynamics Analysis
Takumi Yasuda, Kazuyuki Tanaka, Seiya Kishimoto, Shinichiro Ohnuki (Nihon Univ., Japan)

BP-17 Time-Domain Reference Solutions of Electromagnetic Responses for Dielectric Spheres
Soichiro Masuda, Seiya Kishimoto, Shinichiro Ohnuki (Nihon Univ., Japan)

BP-18 Characteristic Analysis of Metal Case with Two Slots and Inner Folded Dipole Antenna
Kunihisa Gamo, Kazuya Matsubayashi, Naobumi Michishita (National Defense Academy, Japan), Kazuhiro Matsumoto, Tetsuya Hishikawa (Panasonic Corporation, Life Solutions Company, Japan), Hisashi Morishita (National Defense Academy, Japan)

BP-19 A study of Decoupling for Two Planar Inverted F Antennas
Quang Quan Phung, Naobumi Michishita (National Defense Academy, Japan), Hiroshi Sato, Yoshio Koyanagi (Panasonic Corporation, Japan); Hisashi Morishita (National Defense Academy, Japan)

BP-20 Distribution of Electromagnetic Fields by Dispersion Medium with Periodically Conducting Strips
Tomohiro Kagawa, Ryosuke Ozaki, Tsuneki Yamasaki (Nihon Univ., Japan)

BP-21 Analysis of Surface Plasmons in Kretschmann Configuration - Influence of Structure and Composition Ratio -
Tomohiro Tamaru, Seiya Kishimoto, Yoshito Ashizawa, Katsuji Nakagawa, Shinichiro Ohnuki (Nihon Univ., Japan)

BP-22 A Novel Dual-Band Fabry-Pérot Cavity Antenna
Jia-Ming Kang, Fu-Chiarng Chen (National Chiao Tung Univ., Taiwan)

BP-23 Study of Open Stopband Suppression in Leaky-Wave Antennas
Yujiro Kushiyama, Takuji Arima, Toru Uno (Tokyo Univ. of Agriculture and Technology, Japan)

BP-24 Heat Conduction Analysis Using Fast Inverse Laplace Transform Method
Shohei Nishino, Soichiro Masuda, Seiya Kishimoto, Shinichiro Ohnuki (Nihon Univ., Japan)

BP-25 Fundamental Study of Surface Plasmon Modes Using Grating Structure

Kou Hamashima, Di Wu, Seiya Kishimoto, Shuichiro Inoue, Shinichiro Ohnuki (Nihon Univ., Japan)

BP-26 Propagation analysis of electromagnetic field through nano-size metal array

Yuki Ando, Di Wu (Nihon Univ. Japan), Takashi Yamaguchi (Tokyo Metropolitan Industrial Technology Research Institute, Japan); Shinichiro Ohnuki (Nihon Univ. Japan)

BP-27 Metallic Quarter-Wave Plate Composed of Periodic Crossed Slots With the Same Length

Ryota Nakada, Junji Yamauchi, Hisamatsu Nakano (Hosei Univ., Japan)

BP-28 Design of the Surface Plasmon Resonance Waveguide Sensor in the Terahertz Regime

Jun Shibayama, Hiroki Tanaka, Junji Yamauchi, Hisamatsu Nakano (Hosei University, Tokyo, Japan)

BP-29 Analysis of an Optical Waveguide Grating Using the Leapfrog LOD-FDTD Method

Jun Shibayama, Teruaki Ohshiro, Junji Yamauchi, Hisamatsu Nakano (Hosei University, Japan)

BP-30 THz Radar Imaging using MUSIC and Array Interpolated Virtual Array

Kazuki Watakabe, Keizo Cho, Hiroaki Nakabayashi (Chiba Institute of Technology Univ., Japan)

BP-31 Coherency in Multiple Transmission Type of Micro Wave Wireless Power Transmission

Shota Mizuguchi, Takumi Kobayashi, Ryuji Kohno (Yokohama National Univ., Japan)

BP-32 An Analysis of Characteristics of a Polarization Splitter with Circular Cores and Hollow Pits

Keisuke Tanaka (Nihon Univ., Japan), Kazunori Kameda (Sano Nihon University College Japan), Shinichi Furukawa (Nihon Univ., Japan)

BP-33 An analysis of Optical Waveguides consisted of Circular Core with Arbitrarily Refractive Index Profiles by Point Matching Method

Hiroki Matsumaru, Shin Tazawa, Taiki Arakawa (Nihon Univ., Japan), Kazunori Kameda (Sano Nihon University College, Japan), Shinichi Fufukawa (Nihon Univ., Japan)

Commission C: Radiocommunication systems and signal processing

CP-1 Low-Complexity Detection for Massive MIMO System with Low-Resolution ADCs

Peng Gao, Yukitoshi Sanada (Keio Univ., Japan)

- CP-2 Study of Adaptive Terminal Selection for Terminal Collaborated MIMO Reception**
Du Fengning, Masahiro Arai, Hidekazu Murata (Kyoto Univ., Japan)
- CP-3 A Game-theoretic Approach for Clustered WSNs Nodes Compliance against DoS Attack**
Mohamed S. Abdalzaher, (Kyushu Univ., Japan, National Research Institute of Astronomy and Geophysics, Egypt); Osamu Muta (Kyushu Univ., Japan)
- CP-4 Miniatured Impedance Matched Planar Antenna Integrated High Efficient Push-Pull PA for 5-GHz Wireless Communication**
Takeshi Kuboki, Kazutoshi Kato, Haruichi Kanaya (Kyushu Univ., Japan)
- CP-5 Influence of magnetic constant of solenoid core on transmission efficiency used for near field communication**
Yoshihiro Nakamura, Keizo Cho, Hiroaki Nakabayashi (Chiba Institute of Technology, Japan)

Commission D: Electronics and Photonics

- DP-1 Numerical versus Analytical Integration of Neumanns formula**
Shunsuke Hoya, Tsugumichi Shibata (Tokyo City Univ., Japan)
- DP-2 Random Search for Beam Squint Reduction Using Equivalent Circuit of CRLH Transmission Line**
Kazuki Terada, Keizo Cho (Chiba Institute of Technology), Naobumi Michishita (National Defense Academy), Ichiro Oshima (Denki Kogyo Co., Ltd), Hiroaki Nakabayashi (Chiba Institute of Technology)

Commission E: Electromagnetic environment and interference

- EP-1 Development of Electromagnetic Wave Visualization System using Metasurface Radio Wave Absorber**
Atsuya Sakano, Takuya Tsubota, Hirofumi Segawa, Satoshi Yagitani, Mitsunori Ozaki, Tomohiko Imachi (Kanazawa Univ., Japan)
- EP-2 Formulation of Circular TE_{0n} Mode Reflection at Waveguide Open End for the Nondestructive Material Measurement**
Atsuhiko Nishikata, (Tokyo Institute of Technology, Japan)

EP-3 Influence of Static Approximation of Magnetic Dipole Field in Impulsive Noise Source Localization by Dual Loop Measurement

Yumiko Tomizuka, Atsuhiko Nishikata (Tokyo Institute of Technology, Japan)

EP-4 Detecting Ionospheric Anomalies before Earthquakes by Machine Learning Technique

Kakeru Matsuki, Yasuhide Hobara (The Univ. of Electro-Communications, Japan), Hendy Santosa (Univ. of Bengkulu, Indonesia)

Commission G: Ionospheric radio and propagation

GP-1 High-Resolution Simulation Studies of Equatorial Plasma Bubbles

Tatsuhiko Yokoyama (Kyoto Univ., Japan)

GP-2 The MLT dependence on the emission height of pulsating aurora

Yuki Kawamura, Keisuke Hosokawa, (Univ. of Electro-Communications, Japan), Satonori Nozawa (Nagoya Univ., Japan), Yasunobu Ogawa, (National Institute of Polar Research, Japan), Tetsuya Kawabata (Nagoya Univ., Japan), Ryoichi Fujii (Research Organization of Information and systems, Japan)

GP-3 Visualization of two-dimensional structure of Sporadic-E in a wide area by using air-band VHF radio observations and GPS-ROTI

Kotaku Kimura, Keisuke Hosokawa, Jun Sakai (Univ. of Electro-Communications, Japan); Susumu Saito (Electronic Navigation Research Institute, Japan); Takuya Tsugawa, Michi Nishioka, Mamoru Ishii (NICT, Japan); Ichiro Tomizawa (Univ. of Electro-Communications, Japan)

GP-4 Development of a whole atmosphere-ionosphere coupled model towards radio propagation prediction

Hidekatsu Jin (NICT, Japan); Yasunobu Miyoshi (Kyushu Univ., Japan); Chihiro Tao, Hiroyuki Shinagawa (NICT, Japan); Hitoshi Fujiwara (Seikei Univ., Japan)

GP-5 Real-time 3-D ionospheric tomography over Japan with GNSS observations

Susumu Saito (National Institute of Maritime, Port, and Aviation Technology, Japan), Mamoru Yamamoto, Akinori Saito (Kyoto Univ., Japan); Chia-Hung Chen (National Cheng Kung Univ., Taiwan)

GP-6 The MU radar, Equatorial Atmosphere Radar, and future project EMU!!

Mamoru Yamamoto, Hiroyuki Hashiguchi, Toshitaka Tsuda (Kyoto Univ., Japan)

GP-7 Analysis of VLF Band Waves near the Sq Current System Observed by S-310-44 Sounding Rocket

Ryuichiro Nakamura, Taketoshi Miyake, Keigo Ishisaka (Toyama Prefectural Univ., Japan), Takumi Abe (JAXA/ISAS, Japan); Atsushi Kumamoto (Tohoku University, Japan); Makoto Tanaka (Tokai University, Japan)

GP-8 Analysis of DC Electric Field near the Sq Current Focus Observed by S-310-44 Sounding Rocket

Toshiki Mori, Keigo Ishisaka (Toyama Prefectural University, Japan), Takumi Abe (JAXA/ISAS, Japan), Atsushi Kumamoto (Tohoku Univ., Japan), Makoto Tanaka (Tokai Univ., Japan)

GP-9 Review of the Mid-latitude SuperDARN

Nozomu Nishitani (Nagoya Univ., Japan)

GP-10 SENSU SuperDARN Antarctic Syowa radars - past achievements and future perspective

Akira Sessai Yukimatu (National Institute of Polar Research /The Graduate University for Advanced Studies [SOKENDAI], Japan), Natsuo Sato (National Institute of Polar Research, Japan)

GP-11 Automatic detection of Spread-F on ionogram using Machine Learning.

Junji Shimizu, Hiroyuki Nakata, Hiroyo Ohya, Toshiaki Takano (Chiba Univ., Japan)

Commission H: Waves in plasmas

HP-1 Mapping of Digital Camera Images from the International Space Station: Application for Pulsating Aurora Studies

Sota Nanjo, Yuta Hozumi, Keisuke Hosokawa (Univ. of Electro-Communications, Japan), Ryuto Kataoka (National Institute of Polar Research), Yoshizumi Miyoshi (Nagoya Univ.), Shin-ichiro Oyama (National Institute of Polar Research / Nagoya Univ., Japan / Univ. of Oulu, Finland), Mitsunori Ozaki (Kanazawa Univ., Japan); Kazuo Shiokawa, Satishi Kurita (Nagoya Univ.)

HP-2 Large-scale characteristics of chorus waves as inferred from high-speed optical observations of pulsating aurora

Satoshi Ebukuro, Keisuke Hosokawa (Univ. of Electro-Communications, Japan). Yoshizumi Miyoshi (Nagoya Univ.), Shin-ichiro Oyama (Nagoya Univ. / National Institute of Polar Research, Japan / University of Oulu, Finland), Yasunobu Ogawa (National Institute of Polar Research, Japan), Satoshi Kurita (Nagoya Univ., Japan), Yuki Kawamura (Univ. of

Electro-Communications, Japan), Vania Jordanova (Los Alamos National Laboratory, USA), Ryoichi Fuji (Research Organization of Information and systems, Japan)

HP-3 Continuous and global observations of isolated proton aurora from low-altitude satellite during magnetic storm

Haruki Kawai, Keisuke Hosokawa, Hozumi Yuta (Univ. of Electro-Communications, Japan), Kazuo Shiokawa, Satoshi Kurita (Nagoya Univ., Japan), Mistumori Ozaki (Kanazawa Univ., Japan), Takeshi Sakanoi (Tohoku Univ., Japan), Boris Shevtsov, Igor Poddelsky (Institute of Cosmophysical Researches and Radio Wave Propagation, Russia), Tero Raita (SGO, Finland)

HP-4 Evaluation of the calibration method of waveform data measured by the PWE/WFC on board the Arase satellite

Masahiro Kitahara (Tohoku Univ., Japan), Shoya Matsuda (Institute of Space and Astronautical Science/Japan Aerospace Exploration Agency, Japan), Yuto Katoh (Tohoku Univ., Japan), Yoshiya Kasahara (Kanazawa Univ., Japan), Hirotsugu Kojima (Kyoto Univ., Japan), Mitsuru Hikishima (Institute of Space and Astronautical Science/Japan Aerospace Exploration Agency, Japan)

HP-5 Particle Simulation of VLF Triggered Falling-tone Emissions in the Inner Magnetosphere

Takeshi Nogi, Yoshiharu Omura (Kyoto Univ., Japan)

HP-6 Propagation characteristics of whistler mode chorus waves deduced from the observations by PWE/OFA onboard the Arase satellite

Satoshi Kurita, Yoshizumi Miyoshi (Nagoya Univ., Japan), Yoshiya Kasahara (Kanazawa Univ., Japan); Hirotsugu Kojima (Kyoto Univ., Japan), Shoya Matsuda, Ayako Matsuoka, Iku Shinohara (Institute of Space and Astronautical Science, JAXA, Japan)

HP-7 Basic design of software department of Kanazawa University satellite

Rei Takeshita, Tomohiko Imachi, Tatsuya Sawano, Makoto Arimoto, Yoshiya Kasahara, Daisuke Yonetoku, Satoshi Yagitani, Yuta Ogawa, Koga Miyao, Kaichi Ota, Sunyong Kim, Yuki Yasuda (Kanazawa Univ., Japan)

HP-8 Microsatellite Development at Kanazawa University for Education of Space Science and Technology

Tomohiko Imachi, Satoshi Yagitani, Daisuke Yonetoku, Yoshiya Kasahara, Tatsuya Sawano, Makoto Arimoto, Yoshitaka Goto, Mitsunori Ozaki, Ryuichi Fujimoto (Kanazawa Univ., Japan)

Commission J: Radio astronomy

JP-1 The Galactic center lobe filled with thermal plasma

Kenta Fujisawa (Yamaguchi Univ., Japan)

JP-2 Development of Wideband Antenna

Hideki Ujihara (NICT, Japan)

Commission K: Electromagnetics in biology and medicine

KP-1 A Preliminary Study on Assessment of Absorbed Power Density inside a Human Body Based on Measurement of Reflection of Electromagnetic Wave

Ryo Matsumoto (Aoyama Gakuin Univ. / NICT, Japan), Kun Li, Kensuke Sasaki, Soichi Watanabe, Kanako Wake, (NICT, Japan), Ryosuke Suga (Aoyama Gakuin Univ., Japan)

KP-2 A Study of SAR Evaluation in a Radiative WPT System with an Array Antenna

Naoki Fujita (Aoyama Gakuin Univ. / NICT, Japan), Andrey S. Andrenko, Yuto Shimizu, Kanako Wake, Soichi Watanabe (NICT, Japan), Ryosuke Suga (Aoyama Gakuin Univ., Japan)

KP-3 A Study on Simultaneous Estimation of Implant and Wearable Devices

Fumiya Nagao, Daisuke Anzai, Jianqing Wang (Nagoya Institute of Technology)

KP-4 Study of Non-contact Heartbeat Sensing Method during Body Movement using EM Wave Passing through Human Body

So Yo, Jianqing Wang, Daisuke Anzai (Nagoya Institute of Technology, Japan), Takashi Saito, Shunsuke Shibata, Hiroyuki Mori (SOKEN, INC., Japan); Kouichi Yamada (DENSO CORPORATION, Japan)

KP-5 Comparison of Dielectric Property Measurements Using Various Types of Coaxial Probes

Yuto Shimizu, Kensuke Sasaki, Soichi Watanabe, Kanako Wake (NICT, Japan)

Conference Events

Opening Ceremony

9:00-9:15 (September 5, 2019)
Building B, B201

*MC: Shinichiro Ohnuki (Chair; URSI-JRSM 2019
Technical Program Committee)*

Opening Address:

Satoshi Yagitani (URSI-JRSM 2019 General
Chair; President, Japan National Committee
of URSI)
Tsugumichi Shibata (President, IEICE
Electronics Society)
Makoto Ando (President, URSI)
Takashi Fukuda (President, UEC)

Oral Sessions

14:00 - (September 5, 2019)
14:00 - (September 6, 2019)
Building A

Instructions for Oral Presentation:

Please bring and attach your own computer to the LCD projector in the session room. Both HDMI and VGA connectors are available. The session rooms are as follows:

Commission A: Room A302
Commission B: Room A101
Commission C: Room A301
Commission D: Room A303
Commission E: Room A401
Commission F: Room A402
Commission G: Room A102
Commission H: Room A202
Commission K: Room A403

Poster Session

15:45-18:45 (September 5, 2019)
Building B Hall

Instructions for Poster Presentation:

The poster layout is portrait. The dimensions of the poster presentation should not exceed 1800 mm (height) and 900 mm (width). The poster size should be less than A0 size (1189 mm height and 841 mm width). Authors are required to use only the boards corresponding to their posters. Each poster board is marked with a poster ID-number, which can be found in the poster program. Posters can be put up from 12:30 on September 5, 2019. After the poster session is over (18:30 on September 5), all the posters should be removed immediately.

Exhibition

12:30-18:30 (September 5, 2019)
10:00-14:00 (September 6, 2019)
Building B Hall

List of Exhibitors:

- NOISE LABORATORY CO., LTD.
- Advanced Research Center for Space Science and Technology, Kanazawa University
- Center for Space Science and Radio Engineering, The University of Electro-Communications
- College of Science and Technology, Nihon University
- Research Center for Future Vehicle City, Toyohashi University of Technology

Technical Tour

12:30-14:00 (September 5, 2019)
12:15-14:00 (September 6, 2019)
UEC Communication Museum

Participants are free to explore UEC Communication Museum on their own any time during USRI-JRSM 2019.

**URSI-Japan
Commission Business Meetings
(open to all participants)**

13:15-14:00 (September 5, 2019):

Commission A: Building A, A302
Commission C: Building A, A301
Commission H: Building A, A202
Commission G: Building A, A102

12:30-13:15 (September 6, 2019):

Commission B: Building A, A101
Commission F: Building A, A402
Commission K: Building A, A403

Banquet

18:45-20:45 (September 5, 2019)
University Center

*MC: Yasuhide Hobara (Assistant Secretary,
Japan National Committee of URSI)*

Welcome Address:

Kazuya Kobayashi (Chair, Commission B,
URSI; Assistant Secretary-General
(AP-RASC), URSI)
Kazushi Nakano (Member of the Board of
Directors (Research and International
Strategy), The University of
Electro-Communications)

Toast:

Masashi Hayakawa (Past Chair, URSI
Commission E)

During the Banquet, three finalists for Student
Paper Competition (SPC) will be announced.

Closing Ceremony

18:00-18:30 (September 6, 2019)
Building B, B201

*MC: Yasuhide Hobara (Assistant Secretary,
Japan National Committee of URSI)*

SPC Award Ceremony:

Winners of SPC will be awarded the 1st, 2nd
and 3rd prizes.

Closing Address:

Satoshi Yagitani (URSI-JRSM 2019 General
Chair; President, Japan National Committee
of URSI)

**URSI-JRSM 2019 Steering Committee
Meeting (members only)**

12:30-13:15 (September 5, 2019)
Building B, B102

SPC Committee Meetings (members only)

SPC Committee Meeting 1:

17:30-18:00 (September 5, 2019)
Building B, B102

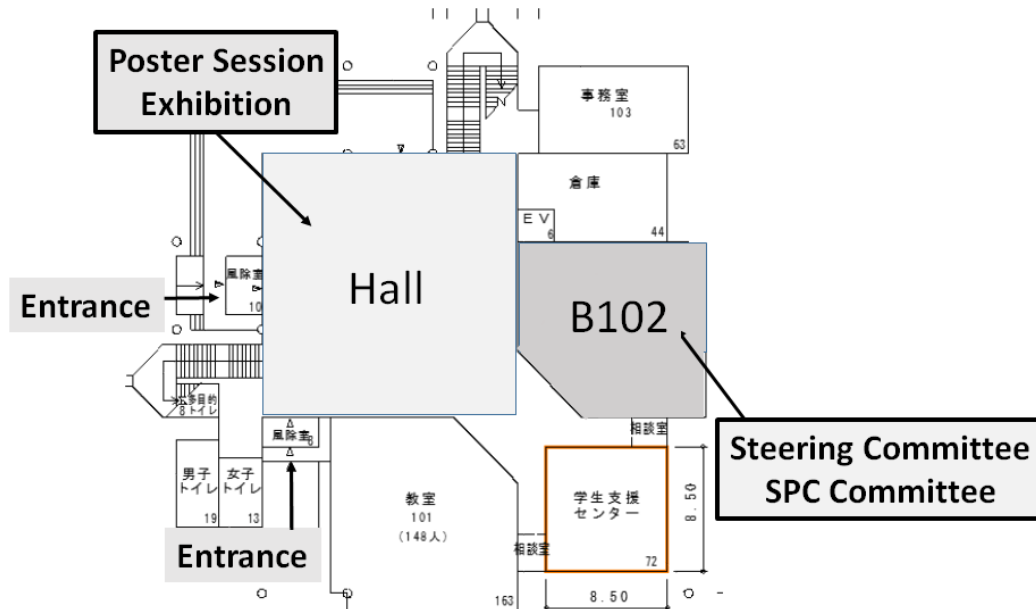
SPC Committee Meeting 2:

13:15-14:00 (September 6, 2019)
Building B, B102

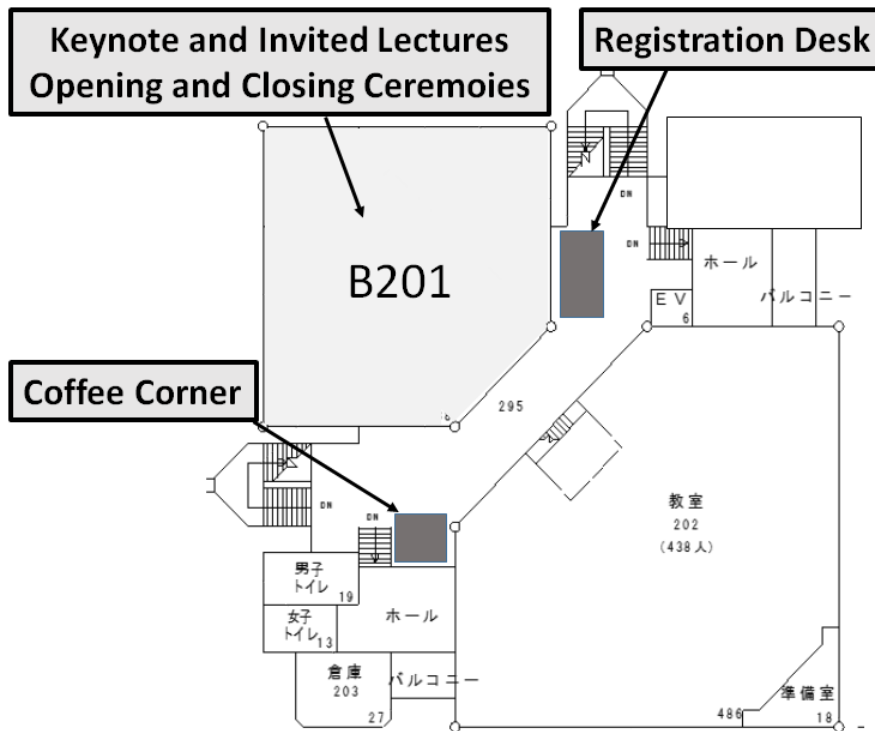
Floor Guide

Building B

1st Floor

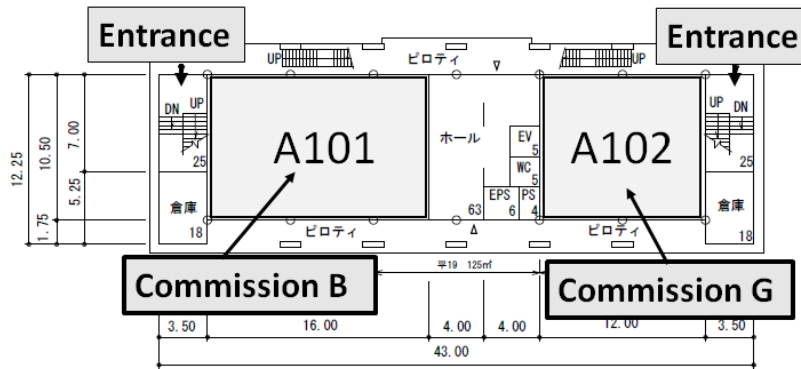


2nd Floor

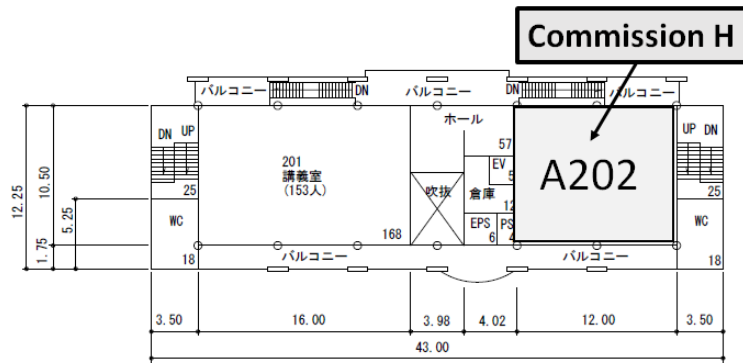


Building A

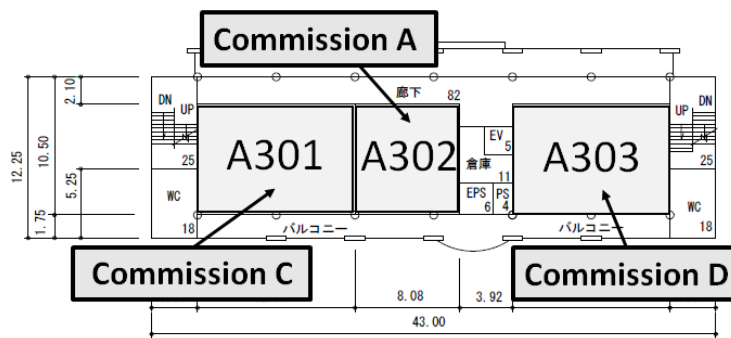
1st Floor



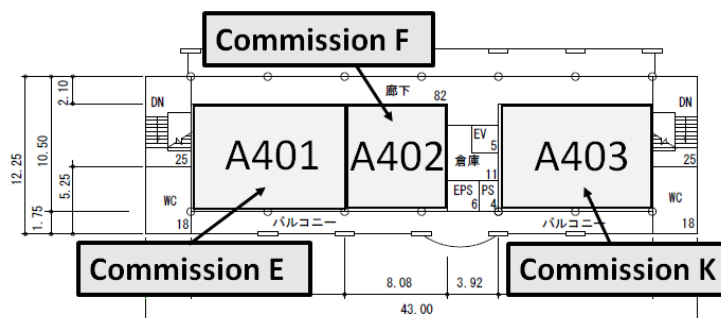
2nd Floor



3rd Floor



4th Floor



List of Exhibitors

- **NOISE LABORATORY CO., LTD.**
- **Advanced Research Center for Space Science and Technology,
Kanazawa University**
- **Center for Space Science and Radio Engineering,
The University of Electro-Communications**
- **College of Science and Technology, Nihon University**
- **Research Center for Future Vehicle City,
Toyohashi University of Technology**