# IEEE Nagoya Chapter

# Midland Student Express 2014 Spring

***Event of the students, by the students, for the students***

1. ***General Information***

Date: 25 April, 2014

Venue: Nagoya Ekimae Office for Innovation Hub
Meieki 4-4-38, Nakamura-ku, Nagoya 450-0002, Japan

Sponsors: IEEE AP-S Nagoya Chapter
IEEE MTT-S Nagoya Chapter

Technical Co-Sponsors: IEEE Nagoya Section
Deneikai of Nagoya Institute of Technology

2. ***Committee***

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| General Chairs | Jongsuck Bae | Nagoya Institute of Technology |
| | Koichi Ogawa | University of Toyama |
| Secretaries | Toshikazu Sekine | Gifu University |
| | Mitoshi Fujimoto | University of Fukui |

***3. Technical Program***

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| 9:40–9:45 | | **Opening address by J. Bae, Nagoya Institute of Technology** |
| Session 1 | | **Chair:**<br>**Co-Chair:** |
| 9:45 | S1–1 | **Design of Reverse Waveguide-Output Patch-Coupled Microstrip-to-Waveguide Transition**<br>*Yuki Ishikawa, Nagoya Institute of Technology* |
| 10:00 | S1–2 | **Disign of Spiral-Slot Frequency Selective Surfaces for Shielding from Noises of Wireless Power Transmission**<br>*Firdaus Kei, Nagoya Institute of Technology* |
| 10:15 | S1–3 | **Design of Hollow-Waveguide Narrow-Wall Slot Array Antenna using Partially Parallel-Feeding System in Millimeter-Wave Band**<br>*Yuichi Hirayama, Nagoya Institute of Technology* |
| 10:30 | S1–4 | **Miniaturization of Four-Port Planar Microstrip-to-Waveguide Transitions with Slot Radiator for Center-Feeding Microstrip Array Antennas**<br>*Hiroaki Yamada, Nagoya Institstute of Technology* |
| 10:45–11:00 | | Break |
| Session 2 | | **Chair:**<br>**Co-Chair:** |
| 11:00 | S2–1 | **Design of Microstrip-Line Connection-Circuit for Rotman-Lens Phase-Shifter**<br>*Yasuhiro Imade, Nagoya Institute of Technology* |
| 11:15 | S2–2 | **Load-Invariant Constant-Voltage-Ratio Transformer without Employing Mutual Inductance**<br>*Kyohei Yamada, Toyohashi University of Technology* |
| 11:30 | S2–3 | **DC Load Pulling Characteristic of a 50 W 7 MHz Double-Current Rectifier for Wireless Power Transfer**<br>*Yoichiro Miyazaki, Toyohashi University of Technology* |

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| 11:45 | S2-4 | **A Prototype 1 kW 7 MHz Real-Time Load Tracking Circuit for Automatic Impedance Matching**<br>*Akira Saito, Toyohashi University of Technology* |
| 12:00-13:00 | | Lunch |
| Session 3 | | **Chair:**<br>**Co-Chair:** |
| 13:00 | S3-1 | **A Consideration of Radiation Efficiency for Harmonics in Coupled-resonant Wireless Power Transfer**<br>*Shohei Fukasawa, Nagoya Institute of Technology* |
| 13:15 | S3-2 | **Research on Synchronization of LED Parallel Visible Light Communication System**<br>*Nguyen Thi Nguyen, Meijo University* |
| 13:30 | S3-3 | **Rational Function Approximation of Filter Characteristics by Vector Fitting**<br>*Toshiki Matsubara, Gifu University* |
| 13:45 | S3-4 | **An Estimation Method for S-Parameters of 4-Port Circuit by 2-Port Measurements**<br>*Shinji Ohno, Gifu University* |
| 14:00 | S3-5 | **Reflection characteristics of microwaves for optically excited free-carriers in silicon**<br>*Yuichi Sugimura, Nagoya Institute of Technology* |
| 14:15 | S3-6 | **Design of a 190-GHz Frequency Doubler Using Schottky Barrier Diodes**<br>*Takumi Shimada, Nagoya Institute of Technology* |
| 14:30-14:45 | | Break |
| Session 4 | | **Chair:**<br>**Co-Chair:** |
| 14:45 | S4-1 | **Detection Characteristics of Microwave Kinetic Inductance Detectors at Terahertz Frequencies**<br>*Xiongbin Yu, Nagoya Institute of Technology* |
| 15:00 | S4-2 | **Output Characteristics of a Frozen Wave Generator at Terahertz Frequencies**<br>*Mitsuhiko Sato, Nagoya Institute of Technology* |
| 15:15 | S4-3 | **DOA Estimation by MUSIC Algorithm Using Spatial Smoothing with Augmented Array Aperture**<br>*Toshiki Iwai, Nagoya Institute of Technology* |
| 15:30 | S4-4 | **A Consideration of High-resolution Location Estimation of Radio Sources by Holography Method**<br>*Kanato Kimura, Nagoya Institute of Technology* |
| 15:45 | S4-5 | **A Consideration of Propagation Delay Time Estimation of Direct Wave in Multipath Environments Using Frequency Sample Data**<br>*Yoshiki Oishi, Nagoya Institute of Technology* |
| 16:00-16:15 | | Break |
| Session 5 | | **Chair:**<br>**Co-Chair:** |
| 16:15 | S5-1 | **Performance Improvement of MIMO Radar Using Spatial Smoothing Preprocessing**<br>*Naoya Matsukawa, Nagoya Institute of Technology* |
| 16:30 | S5-2 | **Performance Improvement of MU-MIMO by Receiving Antenna Selection of Users with BD Method**<br>*Toshiro Ooka, Nagoya Institute of Technology* |
| 16:45 | S5-3 | **A Consideration of Obstacle Detection Method Using Short Range MIMO Sensor in Limited Space**<br>*Yuya Aoki, Nagoya Institute of Technology* |
| 17:00 | S5-4 | **Motion Capture Modeling of a Human Walking for Wearable MIMO Antennas**<br>*Kohei Omote, Toyama University* |
| 17:15 | S5-5 | **Probe Arrangement Design of an OTA Apparatus for 2D-MIMO Array Antennas**<br>*Kento Karitani, Toyama University* |
| 17:30-17:35 | | **Closing address by K.Ogawa, Toyama University** |
| 17:45 | | Banquet |