

2nd International Workshop on Green Energy System and Devices

Program

2 (Monday), December, 2019 (301 lecture hall, 1st building)

9:40-9:50 Chair: Prof. Kazuto Yukita

Opening Remark Yasuyuki Goto, President, AIT

Green Energy system I (9:50-12:00)

Part 1 Japanese session Chair: Prof. Akihiro Torii

9:50-10:15 Invited

GES-I-1 “スマートグリッドとエネルギーマネジメントシステムー豊田市バーチャルパワープラント (VPP)実証の概要と取組ー”, 内田 克己 (中部電力(株), 日本)

10:15-10:40 Invited

GES-I-2 “需要地における給配電システムー国内での実証の取組ー” 武田 隆 (株NTT ファシリティーズ, 日本)

10:40-10:50 short break

Part 2 English session Chair: Prof. Kazuto Yukita

10:50-11:20 Invited

GES-I-3 “Research DC-Microgrid Installation at Fraunhofer IISB”, Julian Kaiser (Fraunhofer Institute for Integrated Systems and Device Technology IISB, Germany)

11:20-11:35 Invited

GES-I-4 “A Transactive Energy Mechanism Design of Virtual Power Plant“, Gao Ciwei (Southeast University, China)

11:35-11:50 Invited

GES-I-5 “Microgrid Distributed Energy Resources Planning Based on Long-term Dynamic Microsimulation“, Wang BeiBei (Southeast University, China)

11:50-12:05

GES-O-1 “Observer-based control design of Dual-Active-Bridge DC/DC converter for DC micro-Grid applications“, Nguyen Duy-Dinh (Aichi Institute of Technology, Japan)

12:05-13:20 Lunch Time

Green Energy Devices (13:20-16:00) Chair: Prof. Tatsuo Mori

13:20-13:50 Invited

GED-I-1 “**Bi-based Lead-free Perovskite Solar Cells**”, Lixin Xiao (*Peking University, China*)

13:50-14:20 Invited

GED-I-2 “**Flexible Transparent Conducting Oxides Based on Multiple Cracked Film Stackin**”, Ching-Ming Hsu (*Southern Taiwan University of Science and Technology, Taiwan R.O.C*)

14:20-14:45 Invited

GED-I-3 “**Single Molecular Single Electron Transistor based on Nanogap Electrodes**”, Yutaka Majima (*Tokyo Institute of Technology, Japan*)

14:45-15:00 short break

Green Energy Devices (13:20-16:00) Chair: Prof. Yoshiyuki Seike

15:00-15:25 Invited

GED-I-4 “**Organic MISIM Photocells: Optoelectronic Conversion using Photo-Induced Pure Polarization Current**”, Kunio Awaga (*Nagoya University, Japan*)

15:25-15:40 Invited

GED-I-5 “**Organic Rechargeable Battery with Vapor Deposited Thin Films of Trioxotriangulene Neutral Radical as a 100% Active Material Cathode**”, Tsuyoshi Murata (*Aichi Institute of Technology, Japan*)

15:40-15:55

GED-O-1 “**Advanced Fabrication of Organic Perovskite Solar Cells in AIT**”, Tatsuo Mori (*Aichi Institute of Technology, Japan*)

15:55-16:00 closing remark

16:00-17:30 Poster Session (3F Lobby, 1st building)

17:30-17:40 moving

17:40-19:10 Banquet (Restaurant Central)

Poster Session

- GES-P-1** **“Transfer of ultrafine polyaniline fibers synthesized in the pores of activated carbon to carbon substrates for highly rapid redox response”**, Naoya Nomura¹, Hiroyuki Itoi¹, Hideyuki Hasegawa¹, Yuina Ohta¹, Yasuto Hoshikawa², Yoshimi Ohzawa¹ (¹ Aichi Institute of Technology, ² Tohoku Univ.)
- GES-P-2** **“Pyrocarbon coating on carbon for negative electrode of the Lithium-ion battery by pressure-pulsed chemical vapor infiltration method”**, Tatsuro Hasegawa, Hiroyuki Itoi, Yoshimi Ohzawa (Aichi Institute of Technology)
- GES-P-3** **“Structural and electrochemical properties of Si/graphite mixed powder coated with pyrocarbon using CVD method”**, Fuga Sato, Hiroyuki Itoi, Yoshimi Ohzawa (Aichi Institute of Technology)
- GES-P-4** **“Examination of FRT characteristics of synchronous machine by simulated feeding”**, Goken Fukuyama¹, Koki Kato¹, Yusuke Kobayashi¹, Kazuto Yukita¹, Toshiro Matsumura¹, and Yasuyuki Goto¹ (¹ Department of Electrical Engineering, Aichi Institute of Technology)
- GES-P-5** **“A Study on Performance of GaN MPPT Type PV controller”**, Yusuke Kobayashi¹, Kazuto Yukita¹, Toshiro Matsumura¹, Yasuyuki Goto¹ (¹ Aichi Institute of Technology)
- GES-P-6** **“Frequency Control Method in Power System Using PCS for PV”**, Koki Kato¹, Yuji Iwane¹, Tadahiro Goda¹, Kazuto Yukita¹, Toshiro Matsumura¹, Yasuyuki Goto¹ and Issarachai Ngamroo² (¹ Aichi Institute of Technology, ² King Mongkut’s Institute of Technology Ladkrabang)
- GES-P-7** **“Influence of Reactive Power Control Gain of STATCOM on Voltage Flicker due to New Control Method of PCS in Medium Voltage Distribution System in Japan”**, Takuma Higashitani¹, Toshiro Matsumura¹, Kazuto Yukita¹, Yasuyuki Goto¹ and Daisuke Iioka² Hiroyuki Ishikawa³, Takayuki Fukae³, Naoki Chikamatsu³, Yuuto Mineta³ (¹ Aichi Institute of Technology, ² Tohoku University, ³ Chubu Electric Power CO., Inc.)
- GES-P-8** **“Study on the Surveying Wiring Path in Household Wiring with Photovoltaic Generator”**, Yuji Iwane¹, Kazuto Yukita¹, Toshiro Matsumura¹, Yasuyuki Goto¹, Kazuhiko Taniguchi², Hiroshi Morita² and Naoya Kubo² (¹ Aichi Institute of Technology, ² KINDEN CORPORATION)
- GES-P-9** **“A Study on Duration Time of Arc Occurred in Low-Voltage PV Systems”**, Akihiro Tsusaka¹, Toshiya Yokoi¹, Toshiro Matsumura¹, Kazuto Yukita¹, Yasuyuki Goto¹, Atsushi Miyamoto² and Hiroyuki Ito² (¹ Aichi Institute of Technology, Japan, ² Nitto Kogyo Corporation, Japan)
- GES-P-10** **“Study on Leading Power Factor Required to Suppress Voltage Rise when Connecting a Large-Capacity PV Device to End of Distribution Line”**, Masumi Tsukamoto¹, Toshiro Matsumura¹, Kazuto Yukita¹, Yasuyuki Goto¹,

Yasunobu Yokomizu ², Daisuke Iioka ³, Hirotaka Shimizu ⁴, Hideki Iwatsuki ⁵, Hirokazu Uenishi ⁵, Hiroyuki Ishikawa ⁵, Yuto Mineta ⁵, Yuuki Kanazawa ⁵
(¹ Aichi Institute of Technology, ² Nagoya University, ³ Tohoku University, ⁴ Polytechnic University, ⁵ Chubu Electric Power Co., Inc.)

- GES-P-11** **“Influence of Critical Electric Field Strength of CO² gas on PTFE Vapor Concentration at 2,000 K”**, Toshiya YOKOI ¹, Akihiro TSUSAKA ¹, Toshiro MATSUMURA ¹, Kazuto YUKITA ¹, Yasuyuki GOTO ¹ and Yasunobu YOKOMIZU ² (¹ Aichi Institute of Technology, ² Nagoya University)
- GES-P-12** **“Electromagnetic Field Analysis and Evaluation around Transmitter Coil and Receiver Coil for Undersea Wireless Power Transfer using 430 kHz band”**, Ryo Yamamoto ¹, Suguru Mototani ¹, Kae Doki ¹, Akihiro Torii ¹ (¹ Dept. of Electrical and Electronics Eng. Aichi Institute of Technology)
- GES-P-13** **“Study on Control of Received Voltage in Wireless Power Transfer Using Magnetic Resonance Coupling to Small Precision Mobile Robot”**, Shuhei Otake ¹, Gun Kuroda ¹, Suguru Mototani ¹, Kae Doki ¹, Akihiro Torii ¹ (¹ Dept. of Electrical and Electronics Eng. Aichi Institute of Technology)
- GES-P-14** **“Remote control robot operator support system using augmented reality based on sensor information”**, Kenya Suzuki ¹, Kae Doki ², Torii Akihiro ³, Mototani Suguru ⁴ (¹⁻⁴ Aichi Inst. of Tech)
- GES-P-15** **“Levitation height control by frequency variation for levitation actuator”**, Ayaka Nakazato ¹, Akihiro Torii ¹, Suguru Mototani ¹, Kae Doki ¹ (¹ Aichi Institute of Technology)
- GED-P-1** **“Evaluation of Interface States of n-GaN MOS by Deep Level Transient Spectroscopy (DLTS) and Steady State Photocapacitance (SSPC)”**, Kazuya Tamura and Yutaka Tokuda (Aichi Institute of Technology)
- GED-P-2** **“Hole traps in MOVPE n-GaN studied by optical DLTS”**, Shun Itoh and Yutaka Tokuda (Aichi Institute of Technology)
- GED-P-3** **“Synthesis and Physical Properties of Trioxotriangulene Dimers”**, Sawa Yamaguchi, Shusaku Ukai, Tsuyoshi Murata, Yasushi Morita (Department of Applied Chemistry, Faculty of Engineering, Aichi Institute of Technology)
- GED-P-4** **“Syntheses and Fundamental Properties of Trioxotriangulene Oligomer Anions for Cathode-active Materials”**, Yasushi Morita, Shusaku Ukai, Takuma Oshita, Sawa Yamaguchi, and Tsuyoshi Murata (Department of Applied Chemistry, Faculty of Engineering, Aichi Institute of Technology)
- GED-P-5** **“Conduction Behaviors of Carrier Transport Materials Used in TADF OLEDs”**, Satoru Aoyama ¹, Ryo Sato ², Yoshiharu Ichikawa ², Yoshiyuki Seike ^{1,2}, Tatsuo Mori ^{1,2} (¹ Graduate School or ² Faculty of Engineering, Aichi Institute of Technology)

- GED-P-6** **“Formation Process of Organic Perovskite Active Layer Using 2-Step Method”**, Yoshiki Kondo, Yoshiyuki Seike, Tatsuo Mori (Graduate School of Engineering, Aichi Institute of Technology)
- GED-P-7** **“Effect of Hole Transport Layer Deposited by Inkjet Printing in Perovskite Solar Cells”**, Ryoma Hayashi ¹, Tatsuo Mori ¹, Yoshiyuki Seike ¹ (¹ Graduate School of Engineering, Aichi Institute of Technology)
- GED-P-8** **“Fabrication of DBP-based Organic Photovoltaic Cells by Drop-Cast Method”**, Naoki Hirohata, Yoshiyuki Seike, Tatsuo Mori (Department of Electrical and Electronics Engineering, Aichi Institute of Technology)
- GED-P-9** **“Basic experiment on resonance photoionization characteristics of cesium plasma in thermionic power generation”**, Yuki Mori ¹, Norio Tsuda ¹, Jun Yamada ¹ (¹ Aich Institute of Technology)
- GED-P-10** **“Design and comparison of dynamic comparator with wide common mode input voltage range in ultra low voltage operation.”**, A. Hibi ¹, Y. Ito ¹, N. Tsuda ¹ and K. Goshima ¹ (¹ Electronics Engineering, Aichi Institute of Technology)
- GED-P-11** **“Design of terahertz patch antenna using nitride semiconductors”**, Kenta Kurahashi ¹, Yuma Goto ¹, Keshiro Goshima ¹, Masanori Nagase ² (¹ Aichi Institute of Technology, ² National Institute of Advanced Industrial Science and Technology)
- GED-P-12** **“Fabrication of GaN-based Schottky barrier diodes for terahertz receiver”**, Shin Miura ¹, Kenta kurahashi ¹, Keishiro Goshima ¹, Tokio Takahashi ², Masanori Nagase ² (¹ Aichi Institute of Technology, ² National Institute of Advanced Industrial Science and Technology)
- GED-P-13** **“PL spectrum in multi stacked InGaAs quantum dots with various inter-dot spacing for solar cell”**, T. yamamoto ¹, R. toyoda ¹, K. Goshima ¹, N. Tsuda ¹, K. Komori ² and T. Sugaya ² (¹ Electronics Engineering, Aichi Institute of Technology (AIT), ² National Institute of Advanced Industrial Science and Technology (AIST))
- GED-P-14** **“Processor with Ultra low power consumption for Specializes Binarized Convolutional Neural Network using FPGA”**, Y. Erika, T. Furusawa, T. Masubuchi, N. Tsuda, K. Goshima (Electronics Engineering, Aichi Institute of Technology)