

International Workshop on Green Energy System and Devices

Program

24 (Friday), Aiwa Kaikan, Lecture Hall

9:30-9:40 Chair: Prof. Kazuto Yukita

Opening Remark Yasuo Suzuki, Director of Research Institute of Industrial Technology, AIT

Green Energy System I (9:50-12:00) Chair: Prof. Kazuto Yukita

9:40-10:15 Invited

GES-I-1 “Heterogeneous Power Quality in Microgrids“, Chris Marnay (*Lawrence Berkeley National Lab., USA*)

10:15-10:50 Invited

GES-I-2 “DC Microgrids in buildings as resilient, flexible and local infrastructure”, Bernd Wunder (*Fraunhofer Institute for Integrated Systems and Device Technology IISB, Germany*)

10:50-11:25 Invited

GES-I-3 “Back-To-Back Inverters for Smart Grid Applications “, Yaow-Ming Chen (*National Taiwan University, Taiwan R.O.C.*)

11:25-12:00 Invited

GES-I-4 “Two-Level Power Oscillation Damping Control in Power Systems with Large Scale Wind and PV Farms “, Issarchai Nagamroo (*King Mongkut's Institute of Technology Ladkrabang, Thailand*)

Lunch Time

Green Energy System II (13:00-15:05) Chair: Prof. Akihiro Torii

13:00-13:35 Invited

GES-II-1 “The role of dc-microgrids in achieving a more resilient electric power supply “, Alexis Kwasinski (*University of Pittsburgh, USA*)

13:35-14:10 Invited

GES-II-2 “Stochastic & Adjustable Robust Hybrid Scheduling Model of Power System Considering Demand Response’s Participation in Large-Scale Wind Power Consumption “, Beibei Wang (*Southeast University, China*)

14:10-14:45 Invited

GES-II-3 “Tradition and Trend of HVDC System “, Takehisa Sakai (*Mitsubishi Electric Co., Japan*)

14:45-15:05

“Summary of Green Energy System”, Prof. Yukita

Green Energy Devices I (15:25-17:30) Chair: Prof. Tatsuo Mori

15:25-16:00 Invited

GED-I-1 "All-inorganic metal oxide electrode interlayers in stable perovskite solar cells", Tzung-Fang Guo (*National Cheng Kung University, Taiwan R.O.C.*)

16:00-16:35 Invited

GED-I-2 “Crystallization Control and Interfacial Doping for High-Performance Perovskite Solar Cells”, Zhao-Kui Wang (*Soochow University, P.R.C.*)

16:35-17:10 Invited

GED-I-3 “Analysis of Degradation Mechanism of Organic-Inorganic Perovskite Solar Cells for Stable Solar Power Conversion”, Toshinori Matsushima (*Kyushu University, Japan*)

17:10-17:30

GED-I-4 “Investigation of Additive Inclusion and Solvent Annealing effects on the Performance of Inverted Structure $\text{CH}_3\text{NH}_3\text{PbI}_{3-x}\text{Cl}_x$ Perovskite Solar Cells Fabricated under High Humidity”, Vincent Obiozo Eze (*Aichi Institute of Technology, Japan*)

**If the presentation time is not enough, this oral presentation may be cancelled and be presented in the poster session.*

17:40-18:40 Poster Session (Aiwa Kaikan, Gakusei Hall)

18:50-20:20 Banquet (Restaurant Central)

25 (Saturday), Aiwa Kaikan, Lecture Hall

Green Energy Devices II (9:15-12:25) Chair: Prof. Tzung-Fang Guo

9:15-9:50 Invited

GED-II-1 “Organo-Lead-Halide Perovskite for Solar Cells and Light Emitting Diodes by Chemical Vapor Deposition”, Matthew R. Leyden (*Kyushu University, Japan*)

9:50-10:25 Invited

GED-II-2 “The emitting dipole orientation of Ir complexes to enhance the outcoupling efficiency of PhOLEDs”, Chang-Ki Moon (*Seoul National University, Korea*)

Chair: Prof. Tatsuo Mori

10:35-11:10 Invited

GED-II-3 “High-performance polymer light-emitting electrochemical cells based on ionic liquids”, Tomo Sakanoue (*Nagoya University, Japan*)

11:10-11:45 Invited

GED-II-4 “High-Performance Nanostructured Organic Solar Cells Enhanced by Surface Plasmon Resonance”, Keizo Kato (*Niigata University, Japan*)

11:45-12:05

GED-II-5 “Hybridization of Redox-Active Materials with Activated Carbon for High-Performance Electrochemical Capacitors”, Hiriyuki Itoi (*Aichi Institute of Technology, Japan*)

12:05-12:25

GED-II-6 “Observation of traps in MOCVD GaN by DLTS and MCTS using Schottky diodes, pn diodes and HEMTs”, Yutaka Tokuda (*Aichi Institute of Technology, Japan*)

12:25-12:35 Closing Remark

Poster Session

- P-1**“Zero Current Control for Disconnected Arms of a Modular Matrix Converter”,
Atsushi Otani, Takaharu Takeshita (*Nagoya Institute of Technology*)
- P-2**“Consideration of Demand Response by Air Conditioner Considering the Number of
People”, Masayoshi Hamanaka Shunsuke Horie Kazuto Yukita Toshiro Matsumura
Yasuyuki Goto (*Aichi Institute of Technology*)
- P-3**“Study on Distributed Cooperative Voltage Control Method using Data Field” ,
Yuki Shinfutsukaichi¹ Mutsumi Aoki¹ Tadanori Yamaguchi² Yoshiki Nakachi²
(¹*Nagoya Institute of Technology*, ²*Chubu Electric Power Co.,Inc.*)
- P-4**“Control methods for power storage devices in distributed power system”, Daiki
Owaki, Kazuto Yukita, Toshiro Mastumura and Yasuyuki Goto
(*Aichi Institute of Technology*)
- P-5**“Consideration on securing the margin of the output for LFC by changing
distribution constraints of EDC” ,Yuko Mizuno, Mutsumi Aoki, Hiroyuki Ukai
(*Nagoya Institute of Technology*)
- P-6**“Verification of Synchronous Generator Transient Stability Using Power System
Simulator” , Nimi Kenshu, Masayoshi Hamanaka, Shunsuke Horie, Daiki Owaki,
Kazuto Yukita, Toshiro Matsumura and Yasuyuki Goto (*Aichi Institute of Technology*)
- P-7**“Study on Voltage Unbalance Suppression Measures in Distribution System using
Single Phase Static Capacitors”, Yukimasa Ikai¹, Mutsumi Aoki¹, Yu Fujita², Hiroshi
Kobayashi², Yuya Ishii³, Kazuhiro Uenishi³ (¹*Nagoya Institute of Technology*, ²*TOENEC
CORPORATION*, ³*Chubu Electric Power Co.,Inc.*)
- P-8**“Experimental study on interception time in different inductance
for 100 V class DC breaking arc ”, Kazuho Hasegawa¹, Koki Okuda¹, Kosuke Zochi¹,
Akihiro Tsusaka¹, Toshiro Matsumura¹, Kazuto Yukita¹, Yasuyuki Goto¹, Atsushi
Miyamoto² and Hiroyuki Ito² (¹ *Aichi Institute of Technology*, ² *Nitto Kogyo
Corporation*)
- P-9**“A study of Protection System for Looped Distribution System using General
Purpose Protection Relay”, Shinya Fujita¹, Mutsumi Aoki¹, Toru Amau^{1,2}, Kazuhiro
Kojima², Tetsuo Otani^{1,3} Tatsuya Ozawa⁴ (¹*Nagoya Institute of Technology*, ²*Chubu
Electric Power CO.,Inc.*, ³*CRIEPI*, ⁴*MEIRYO DENSHI*)
- P-10**“A Study of small wind generator using turn number conversion type generator
and buck-boost type MPPT”, Kazuhiro Minemura, Masayoshi Hamanaka, Kazuto

Yukita, Toshiro Matsumura, Yasuyuki Goto, Takanori Matsuyama (*Aichi Institute of Technology*)

P-11“Basic Study on Reference Voltage of SVR in Looped Distribution System”, Shigeki Ishihara¹, Mutsumi Aoki¹, Shunsuke Sasaki², Toshirou Kojima², Yuya Ishii² (¹ *Nagoya Institute of Technology*,² *CHUBU Electric Power Co.,Inc.*)

P-12“A Study on Simulation of Direct Current Interruption Process by using Mayr Arc Model” , A. Tsusaka¹, K. Okuda¹, K. Zochi¹, K. Hasegawa¹, T. Matsumura¹, K. Yukita¹, Y. Goto¹ and Y. Yokomizu², (¹*Aichi Institute of Technology*, ²*Nagoya University*)

P-13“A Study on Voltage Regulator constructed in IED” , Hiroaki Sato¹ Mutsumi Aoki¹ Toru Amau² Kazuhiro Kojima² Tetsuo Otani³ Tatsuya Ozawa⁴ (¹*Nagoya Institute of Technology*,²*Chubu Electric Power Co.,Inc.* ³ *CRIEPI*,⁴*MEIRYO DENSHI*)

P-14“A Study on High-efficiency Outdoor Units of Air Conditioner” , Yuji Iwane¹, Shunsuke Horie¹, Tadashi Hosoe¹, Kazuto Yukita¹, Toshiro Matsumura¹, Yasuyuki Goto¹ and Kazuo Omoto² (¹ *Aichi Institute of Technology*, ² *KINDEN CORPORATION*)

P-15“Study on the Reference Voltage of SVR and STATCOM Under the Voltage Unbalance Condition”, Kazuya Hashimoto¹, Mutsumi Aoki¹, Shunsuke Sasaki², Toshirou Kojima², Yuya Ishii² (¹*Nagoya Institute of Technology*, ²*Chubu Electric Power Co.,Inc.*)

P-16“A New Power Flow Calculation Method Considering Frequency Fluctuation Analysis”, Shunsuke Horie , Tadahiro Goda , Kazuto Yukita and Yasuyuki Goto (*Aichi Institute of Technology*)

P-17“A Feasibility Study on a Regional Energy Business”, Midori Nonogaki, Nobuyuki Yoshizawa, Ken Ozeki and Hidekazu Hoshi (*NTT FACILITIES, INC*)

P-18“Voltage Distribution along Line in Case of Interconnection of Large PV Device at End of Long Power Distribution Line”, M. Tsukamoto, S. Takagi, K. Mori, T. Matsumura, K. Yukita and Y. Goto (*Aichi Institute of Technology*)

P-19“A study on optimum design of storage battery capacity for DC Microgrid” Kazufumi Yuasa, Miki Ueshima and Tadatoshi Babasaki(*NTT FACILITIES, INC.*)

P-20“Estimation of Levitation Height by Plate Vibration” ,Kento Tanaka Yushi Takaki Akihiro Torii Suguru Mototani Kae Doki (*Aichi Institute of Tecjnology*)

P-21“Proposal of DC Switch Less Contact Erosion”, Akinori Kato (*Kawamura Electric*)

Inc.)

P-22“Fabrication of Organic Perovskite Solar Cells with Air-Assisted-Flow”, Okada Hiroyuki¹, Kenta Saito², Vincent Obiozo Eze¹, Yoshiyuki Seike^{1,2}, Tatsuo Mori^{1,2}
(¹Graduate School, ²Faculty of Engineering, Aichi Institute of Technology.)

P-23“Optical Absorption Spectra of CH₃NH₃PbI₃ Thin Films for Defect Estimation by Photothermal Spectroscopy”, Norimitsu Yoshida^{1,4}, Hiroki Kato², Yuta Hirota³, Kouki Kawahara¹, Masahide Kogiso², Kazutaka Hirano² and Shuichi Nonomura^{1,4}
(¹Department of Electrical, Electronic and Computer Engineering, ²Environmental and Renewable Energy Systems Division, ³Department of Energy Engineering, ⁴Next Generation Energy Research Center, Gifu University)

P-24“Fabrication of Perovskite Solar Cell Using Solvent Engineering Method”, Yoshiki Kondo², Masaki Kawai², Hiroyuki Okada¹, Vincent Obiozo Eze¹, Yoshiyuki Seike^{1,2}, Tatsuo Mori^{1,2} (¹Graduate School, ²Faculty of Engineering, Aichi Institute of Technology.)

P-25“Fabrication of Organic Thin-Film Solar Cells Using Unsubstituted Fullerene”, Naoki Hirohata, Kenichi Ueda, Kokoro Kimura, Daiki Tangiku, Yasuyuki Seike, Tatsuo Mori (Department of Electrical Engineering, Aichi Institute of Technology)

P-26“Static electrostatic preventing at the spray cleaning in the electrical device manufacturing”, Shogo Miyakawa¹, Hayato Watanabe¹, Taishi Segawa², Yoshinori Kobayashi², Keiji Miyachi², Tatsuo Mori¹, Yoshiyuki Seike¹ (¹Aichi Institute of Technology, ²Asahi Sunac Corporation)

P-27“Fabrication of Plasmonic Thin-film Organic Solar Cells on Flexible Substrates”, Ryosuke Takado, Chutiparn Lertvachirapaiboon, Akira Baba, Kazunari Shinbo, Keizo Kato, Futao Kaneko (Niigata University)

P-28“Electron Temperature of High Pressure Plasma Induced by Femtosecond Laser”, Kohsuke Tsuchida Norio Tsuda and Jun Yamada, ¹Aichi Institute of Technology)

P-29“Influence of Metal Contamination in the Active Layer of the Organic Thin Film Solar Cell”, Taichi Ishikawa², Hiroto Katsuta², Daiki Tangiku¹, Tatsuo Mori^{1,2}, Yoshiyuki Seike^{1,2} (¹Graduate School, ²Faculty of Engineering, Aichi Institute of Technology)

P-30“Deposition Technique on the Organic Thin Film Solar Cell by Electrospray”, Daiki Tangiku, Tatsuo Mori, Yoshiyuki Seike (Graduate School of Engineering, Aichi Institute of Technology)

P-31“Challenge to the organic thin film solar cell production which can be put on the smart contact lens”, Nana Inagaki², Seiya Shiiba², Daiki Tangiku¹, Tatsuo Mori^{1,2}, Yoshiyuki Seike^{1,2} (¹Graduate School, ²Faculty of Engineering, Aichi Institute of Technology)

P-32“Light-illumination-induced degradation of organic thin film transistors during on states”, Takashi Ota¹, Hiroo Anan², Tetsuya Katou², Masayuki Katayama², and Yutaka Tokuda¹ (¹Aichi Institute of Technology, ²DENSO CORPORATION)

P-33“Fabrication and Optimization of the Inverted Structure of Organic Light-Emitting Diode”, Satoru Aoyama², Sota Nozawa², Daiki Tangiku¹, Yoshiyuki Seike^{1,2}, Tatsuo Mori^{1,2} (¹Graduate School, ²Faculty of Engineering, Aichi Institute of Technology)

P-34“Traps in AlGaIn/GaN HEMTs studied by DLTS and MCTS”, Kouta Takabayashi and Yutaka Tokuda (Aichi Institute of Technology)

P-35“Preparation of silicon-coated carbon for anode of lithium-ion battery using chemical vapor deposition method”, Takuya Ontoku, Hiroyuki Itoi, Yoshimi Ohzawa (Department of Applied Chemistry, Aichi Institute of Technology)

P-36“Hybridization of TEMPO derivatives inside the pores of activated carbon with high dispersity for high-performance electrochemical capacitor electrodes”, Hideyuki Hasegawa, Hiroyuki Itoi, Yoshimi Ohzawa (Aichi Institute of Technology)

P-37“Pyrocarbon-coating on carbon material derived from wood using pressure-pulse chemical vapor infiltration technique and its electrochemical properties for lithium-ion battery”, Koki Sawano, Hiroyuki Itoi, Yoshimi Ohzawa (Aichi Institute of Technology)

P-38“Velocity sensor utilizing terminal voltage fluctuation of laser due to self-coupling effect”, Tatsuya Ohba Takeshi Yoshimatsu Norio Tsuda and Jun Yamada (Aichi Institute of Technology)

P-39“Influence of Decrease in Thickness on Permittivity of Stretched Acrylic Elastomer”, Kento Naya¹ Muneaki Kurimoto¹ Toshihisa Funabashi² Takeyoshi Kato² Yasuo Suzuoki³ (¹Department of Electrical Engineering, Nagoya University, ²Institute of Materials and Systems for Sustainability, Nagoya University, ³Aichi Institute of Technology)

P-40“Development of Power Hardware In the Loop (PHIL) using Internet- Comparison of Data Transfer Performance by Data Transfer Protocol-”, Yusaku Tamakoshi¹ Muneaki Kurimoto¹ Yusuke Manabe² Toshihisa Funabashi² Takeyoshi Kato² Shin Mitsunari³ Mutsumi Aoki³ (¹Department of Electrical Engineering, Nagoya University,

²*Institute of Materials and Systems for Sustainability, Nagoya University,* ³*Department of Electrical and Mechanical Engineering, Nagoya Institute of Technology)*

P-41“Influence of Short-wave Radiation Schemes in WRF on Irradiance Forecasting Accuracy”, Naoto Kai¹ Muneaki Kurimoto¹ Yusuke Manabe¹ Toshihisa Funabashi¹ Takeyoshi Kato¹ Fumichika Uno² (¹*Nagoya University,* ²*National Institute of Advanced Science and Technology*)

P-42“Band formation in multi stacked InGaAs quantum dots with various inter-dot spacing”, K.Goshima¹, N.Tsuda¹, K.Komori², T.Sugawa² (¹*Aichi Institute of Technology,* ²*National Institute of Advanced Industrial Science and Technology*)

P-43“High Efficiency Light Emission Using Silicon P-I-N Structures with Alkali Metal Doping”, Wataru Niwa¹, Ryota Kobayashi¹, Yuma Sugishita¹, Keishiro Goshima¹ (¹*Aichi Institute of Technology*)