

LECTURE SESSION

Nov. 12, (Mon.) 16:25-18:05

Lecture Session: Energy Storage and Conversion Devices and Related Materials

Room: Gold

Organizer: Prof Isamu Moriguchi (Nagasaki University, Japan)

1. Research and Development of Cathode Catalysts for PEFCs
Hiroyuki Uchida and Masahiro Watanabe (University of Yamanashi)
2. Crystal Chemistry of phosphate and silicate-based positive electrodes of Li Batteries
Christian Masquelier (Universite de Picardie)
3. Energy Storage Batteries and their System Application: Prospects and Issues
Masahiko Hiratani Motoo Futami (Shin-Kobe Electric Machinery), Mitsuhiro Kishimi (Hitachi Maxell Energy), Kenji Takeda (Hitachi Research Laboratory)
4. The Nagasaki University Priority Research on Materials Science for Next-Generation Energy
Isamu Moriguchi (Nagasaki University)

INVITED SPECIAL SESSIONS

Nov. 13, (Tue.) 8:20-10:00

ISS-1: New Trends in Solar Energy

Room: Amethyst

Organizer: Prof Jaeho Choi (Chungbuk National University, Korea) and Prof. Yasuyuki Nishida (Chiba Institute of Technology, Japan)

1. Speed Sensorless Fuzzy MPPT Control of Grid- Connected PMSG for Wind Power Generation
Adinda Ihsani Putri, Minh Ahn, and Jaeho Choi (Chungbuk National University)
2. Control for Grid-Connected and Stand-Alone Operations of Three-Phase Grid-Connected Inverter
Thanh-Vu Tran, Tae-Won Chun, Hong-Hee Lee, Heung-Geun Kim, Eui-Cheol Nho
3. Evaluating the Impact of BESSs in the Jeju Island Power System

Kyung-Min Jin, Eel-Hwan Kim (Jeju National University)

4. Wind Power Development in Japan
Yoshinori Ueda (Mitsubishi Heavy Industry)

Nov. 13, (Tue.) 10:25-12:30

ISS-2: New Trend of High Performance Power Conversion Technologies

Room: Amethyst

Organizer: Prof. Yasuyuki Nishida (Chiba Institute of Technology, Japan)

1. The Stability Modeling of Ripple-Based Constant On-Time Control Schemes Used in the Converters Operating in DCM
I-Chieh Wei, Dan Chen, Yu-Cheng Lin, Ching-Jan Chen (National Taiwan University, Rich Tek Technology Corporation)
2. Comparative Evaluation of Multi-Loop Control Schemes for a High-Bandwidth AC Power Source with a Two-Stage LC Output Filter
Patricio Cortes, David O. Boillat, Hans Ertl, Johann W. Kolar (ETH)
3. Modeling and Experimental Analysis of a Coupling Inductor Employed in a High Performance AC Power Source
David O. Boillat and Johann W. Kolar (ETH)
4. The flow simulation in the membrane module of PRO using concentrated brine
Katsuhiro Koyanagi (Nagasaki University) Hidechito Hayashi (Nagasaki University) Morihiro Irie (Kyowakiden Industry) Shinnitiro Zaitso (Kyowakiden Industry) Hdeyuki Sakai (Kyowakiden Industry)
5. Switching Measurement of Soft Switching DC-DC Boost Converter using Lossless Snubber and Coupling Inductor
Noriyuki Kimura* (Osaka Institute of Technology)* Kenta Isozumi (Osaka Institute of Technology) Toshimitsu Morizane (Osaka Institute of Technology) Hideki Omori (Osaka Institute of Technology)

Nov. 13, (Tue.) 14:00-16:05

ISS-3: DC Power Technologies for Renewable Energy Room: Amethyst

Organizer: Dr. Keiichi Hirose (NTT Facilities, Inc., Japan)

1. Technological Assessment of DC-DC Multiple-input Converters as an Interface for Renewable Energy Applications
Ruichen Zhao, Sheng-Yang Yu, Alexis Kwasinski (The University of Texas at Austin)
2. Applying the DC Distribution System Constructed Commercial Buildings
Keon-Woo Park, Jae-Bong Kim, Dong-Zoon Lee (KD Power)
3. A Hybrid Microgrid System Including Renewable Power Generations and Energy Storages for Supplying both the DC and AC Loads
Guohong Wu, Shunnosuke Kodama, Yoshiyuki Ono, Yusuke Monma (Tohoku Gakuin University)
4. Arc Protection Scheme for DC Distribution Systems with Photovoltaic Generation
Gab-Su Seo, Hyunsu Bae, Bo-Hyung Cho, Kyu-Chan Lee (Seoul National University)
5. Characteristics of 400 V dc plug and socket-outlet for DC distribution systems
Tomonori Iino, Keiichi Hirose, Masatoshi Noritake (NTT FACILITIES), Akio Nakamura, Koichi Kiryu (FUJITSU COMPONENT), Junya Sekikawa (SHIZUOKA University)

Nov. 13, (Tue.) 16:30-18:10

ISS-4: Toward Establishing a Sustainable Society Room: Amethyst

Organizer: Prof. Yujing Jiang (Nagasaki University, Japan)

1. Development of Technologies to Preserve the Water Environment and Support its Sustainable Use in Asia
Takakazu Ishimatsu, Shuji Tanabe, Yujing Jiang, Jun Kamo, Kouichi Taguchi, Tomosato Itayama, Hideki Miyagawa, Akihida Tada (Nagasaki University)
2. Reliability Estimation of an CFST Arch Bridge by Static Loading Test According to Chinese Code
Kangming Chen, Shozo Nakamura, Takafumi Nishikawa (Nagasaki University), Qingxiong Wu (Fuzhou University)

3. Reinforcement Effect of PCM Shotcrete Method Using FRP Grid for Tunnel Maintenance

Yukihiro HIGASHI, Bo LI, Yujing JIANG (Nagasaki University)

4. Study on Microtremor Spectrum Properties of Tunnel Lining

Yang Gao, Yujing Jiang, Bo Li, Yoshito Yamauchi (Nagasaki University)

Nov. 14, (Wed.) 8:20-10:00

ISS-5: New Technologies for Energy System

Room: Amethyst

Organizer: Prof. Tsuyoshi Higuchi (Nagasaki University, Japan)

1. Comparative Evaluation of Control Methods for Inductive Power Transfer
R. Bosshard, U. Badstübner, J. W. Kolar, and I. Stevanović (ETH)
2. A New Improved Fast Digital PID Control DC-DC Converter Using a Complementing Low-Resolution Fast A-D Converter
Fujio Kurokawa (Nagasaki University) Ryuya Yoshida* (Nagasaki University)*
3. Performance Characteristics of Reference Modification Control DC-DC Converter
Hidenori Maruta (Nagasaki University) Masashi Motomura* (Nagasaki University)* Fujio Kurokawa (Nagasaki University)
4. Fine Groove Milling of Microchannel Dies Relationship between Tool Run-out and Groove Accuracy
Kenichi IWATSUKA, Yukio MAEDA, Yoshihito ISOKAWA, Kazuya Kato (Toyama Prefectural University), Hideaki TANAKA (Hitachi, Ltd.), Takanori YAZAWA (Nagasaki University)

Nov. 14, (Wed.) 10:25-12:30

ISS-6: Environmentally Conscious Machining

Room: Amethyst

Organizer Prof. Takanori Yazawa (Nagasaki University, Japan)

1. Grinding of Microgrooves in Cemented Carbide Dies Influence of Grinding Conditions on Groove Shape Accuracy
Yoshihito ISOKAWA, Yukio MAEDA, Kenichi IWATSUKA, Kazuya KATO (Toyama Prefectural University), Hideaki TANAKA (Hitachi, Ltd.), Takanori YAZAWA (Nagasaki University)

2. Near-Dry Cutting of Difficult-To-Cut Materials Tool Wear Characteristics of a Cemented Carbide Tool
Tatsuya WAKABAYASHI, Yukio MAEDA, Kazuya KATO (Toyama Prefectural University), Takanori YAZAWA (Nagasaki University)
3. Ultra-Precision Cutting of an Aluminum Alloy Improvement of the Cutting Edge Shape Using a Straight Diamond Tool
Daisuke HIRASE, Yukio MAEDA, Kenichi IWATUKA, Kazuya KATO (Toyama Prefectural University), Takanori YAZAWA (Nagasaki University)
4. Study on High Efficiency Milling of Steam Turbine Blade
Xin Yuan, Takanori Yazawa, Nobutoshi Baba (Nagasaki University), Yukio Maeda (Toyama Prefectural University), Yasuhiko Ougiya, Tatsuhiko Kojima (Nagasaki University)
5. Proposal of Energy-Saving Control Method of Air Turbine Spindle and Evaluation of Its Energy Consumption Using Air Power Meter
Tomonori Kato, Genki Higashijima (Fukuoka Institute of Technology), Katsutoshi Tanaka (TOSHIBA MACHINE, CO., LTD.), Takanori Yazawa, Tatsuki Otsubo, Yusuke Nozaki (Nagasaki University)