

Monday, 24 November 2008

Registration	08:00 hrs
--------------	-----------

Time 09:00 – 17:00 hrs
Tutorial 1 Wind Power Systems — A Short Course on Generating Electrical Energy from Wind Power Plants
Prof. Chem Nayar
Department of Electrical and Computer Engineering, Curtin University of Technology, Australia

Venue Function Room 4.1

Time 09:00 – 17:00 hrs
Tutorial 2 Simulation of Renewable Energy Systems
Dr. Jost Allmeling
Founder, Managing Director of Plexim
Mr. Orhan Toker
Vice President, Sales & Marketing of Plexim

Venue Function Room 4.2

Time 09:00 – 17:00 hrs
Tutorial 3 Renewable Energy Systems — Simulation Aspects in PSCAD/EMTDC for Grid Operation
Dharshana Muthumuni
Research Fellow, Manitoba HVDC Research Centre, Canada

Venue Executive Seminar Room 4.1

Welcome Reception @ Level 4 Foyer	18:30 – 20:30 hrs
-----------------------------------	-------------------

Tuesday, 25 November 2008

Registration	08:00 hrs
--------------	-----------

Exhibition @ Level 5 Foyer	09:00 – 17:00 hrs
----------------------------	-------------------

Opening Ceremony @ Conference Hall 1	09:00 – 09:20 hrs
--------------------------------------	-------------------

Time 09:20 – 10:00 hrs
Keynote 1 Why Energy Storage?
Dr. Michael Quah
Corporate Technology Fellow in Energy & Environmental Sustainability, Concurrent Technologies Corporation, USA and Visiting Principal Fellow, Energy Studies Institute, Singapore

Venue SMU Conference Hall One

Time 10:00 – 10:40 hrs
Keynote 2 Solar Electric Energy Supply — Photovoltaic and Solar Thermal Energy Conversion
Prof. Joachim Luther
CEO, Solar Energy Research Institute of Singapore (SERIS)

Venue SMU Conference Hall One

Morning Tea Break	10:40 – 11:30 hrs
-------------------	-------------------

Time 11:00 – 11:40 hrs
Keynote 3 Towards “Integrated Energy Systems” — Challenges and Directions
Prof. Ho Hiang Kwee
*Director, SINERGY Centre, Agency for Science Technology & Research (A*STAR)*

Venue SMU Conference Hall One

Time 11:40 – 12:20 hrs
Keynote 4 Efficient Operation of Distributed Energy Resources in Microgrid
Dr. Toshihisa Funabashi
Power System Solutions Sales and Engineering Division, Meidensha Corporation ThinkPark Tower, 2-1-1 Ohsaki, Shinagawa-ku, Tokyo 141-6029 Japan

Venue SMU Conference Hall One

Lunch Break	12:40 – 14:00 hrs
-------------	-------------------

Technical Programme

Session	Solar Energy 1
Date/Time	Tuesday, 25 November 2008 / 14:00 – 15:40 hrs
Venue	Executive Seminar Room 4.1
Chair	Dr. Leong Hua Tey
14:00 – 14:20	[087] Maximum Power Point Tracking Method for the Voltage-Mode Grid-Connected Inverter of Photovoltaic Generation System <i>Wen-Jung Chiang, Hurng-Liahng Jou and Jinn-Chang Wu</i>
14:20 – 14:40	[100] The Computer Aided Design Method for Determining the Monthly Optimum Tilt Angle of PV Arrays <i>Gang Yang and Yongxian Du</i>
14:40 – 15:00	[101] Modelling and Simulation of Solar PV Array Under Partial Shaded Conditions <i>R. Ramaprabha and B. L. Mathur</i>
15:00 – 15:20	[116] Behavior Matching Technique Applied to a Three-Phase Grid-Connected PV System <i>M. M. Casaro and D. C. Martins</i>
15:20 – 15:40	[131] Application of the dq0 Transformation in the Three-Phase Grid-Connected PV Systems with Active and Reactive Power Control <i>M. F. Schonardie and D. C. Martins</i>

Session	Wind Energy 1
Date/Time	Tuesday, 25 November 2008 / 14:00 – 15:40 hrs
Venue	Executive Seminar Room 4.2
Chair	Prof. Xin-yan Zhang
14:00 – 14:20	[097] Cogging Torque Reduction in Dual-Rotor Permanent Magnet Generator for Direct Coupled Stand-Alone Wind Energy Systems <i>P. Sivachandran, P. Venkatesh and N. Kamaraj</i>
14:20 – 14:40	[098] A Test Facility for the Data Acquisition and Signal Analysis of the Wind Power System <i>Gang Yang</i>
14:40 – 15:00	[356] Nonlinear Model Predictive Control (NMPC) of Fixed Pitch Variable Speed Wind Turbine <i>D. Q Dang, Y. Wang and W. Cai</i>
15:00 – 15:20	[064] Voltage Regulation of a Stand-Alone Induction Generator Using Thyristor-Switched Capacitors <i>M. H. Haque</i>
15:20 – 15:40	[065] Demonstration of Parallel Operation of Single-Phase and Three-Phase Induction Generators for Off-Grid Operation <i>M. H. Haque</i>

Session	Alternative Energy 1
Date/Time	Tuesday, 25 November 2008 / 14:00 – 15:40 hrs
Venue	Executive Seminar Room 5.1
Chair	Dr. Hirotaka Koizumi
14:00 – 14:20	[092] An Agent-Based Approach to Renewable Energy Management in Eco-Building <i>Zeng Jun, Wu Jie, Liu Jun-Feng, Gao La-Mei and Li Min</i>

Technical Programme

- 14:20 – 14:40 [094] VSC with T-Connected Transformer Based Decoupled Controller for a Pico Hydro Power Generation
Bhim Singh and Gaurav Kumar Kasal
- 14:40 – 15:00 [102] Clean Energy Policy in Singapore: An Update
L. H. Tey and A. K. B. See
- 15:00 – 15:20 [117] An Empirical Analysis for the Import Risk of China's Petroleum Products Based on the Improved Portfolio Approach
Gang Wu, Yi-Ming Wei and Ying Fan
- 15:20 – 15:40 [217] Robust LED Backlight Driver with Low Output Voltage Drop and High Output Current Accuracy
Tse-Ju Liao and Chern-Lin Chen

Session Energy Distribution 1
Date/Time Tuesday, 25 November 2008 / 14:00 – 15:40 hrs
Venue Executive Media Theater
Chair Dr. Deependra Singh

- 14:00 – 14:20 [109] Multi-Class Support Vector Machine Approach for Fault Classification in Power Transmission Line
V. Malathi and N. S. Marimuthu
- 14:20 – 14:40 [245] Detection and Classification of Impulse Faults in Transformer Using Wavelet Transform and Artificial Neural Network
N. Vanamadevi, M. Arivamudhan and S. Santhi
- 14:40 – 15:00 [268] Multi-Agent Coordination for DER in MicroGrid
T. Logenthiran, D. Srinivasan and D. Wong
- 15:00 – 15:20 [275] Modeling and Optimization of Renewables: Applying the Energy Hub Approach
M. Schulze, L. Friedrich and M. Gautschi
- 15:20 – 15:40 [276] Agc for Distributed Generation
B. Santosh Kumar, S. Mishra and N. Senroy

Session Energy Storage 1
Date/Time Tuesday, 25 November 2008 / 14:00 – 15:40 hrs
Venue Function Room 4.1
Chair Prof. Maswood Ali

- 14:00 – 14:20 [072] Optimal Bidding Strategies for Multi-unit Pumped Storage Plant in Pool-Based Electricity Market Using Evolutionary Tristate PSO
P. Kanakasabapathy and K. Shanti Swarup
- 14:20 – 14:40 [086] Multilevel Peukert Equations Based Residual Capacity Estimation Method for Lead-Acid Battery
Yu-Hua Sun, Hurng-Liahng Jou and Jinn-Chang Wu
- 14:40 – 15:00 [115] A Simulation Study on Solar Energy Seasonal Storage by Phase Change Material
Qi Qi, Yiqiang Jiang and Shiming Deng
- 15:00 – 15:20 [088] Ripple Voltage Suppression Method for DC/DC Boost Converter of the Grid-Connected Renewable Power Generation System
Jia-Min Shen, Hurng-Liahng Jou and Jinn-Chang Wu

Technical Programme

15:20 – 15:40 [321] Soft Switched AC-Link Direct-Connect Photovoltaic Inverter
M. Amirabadi, A. Balakrishnan, H. A. Toliyat and W. Alexander

Session Energy Efficiency 1
Date/Time Tuesday, 25 November 2008 / 14:00 – 15:40 hrs
Venue Function Room 4.2
Chair Prof. K. I. Hwu

14:00 – 14:20 [067] A New Evaluation System for Energy Saving based on Energy Efficiency and Loss Ratio
Yongqiang Zhu and Zhongdong Yin

14:20 – 14:40 [080] Analysis of a Switched-Reluctance Generator for Maximum Energy Conversion
Supakit Wongguokoon and Supat Kittiratsatcha

14:40 – 15:00 [103] Transmission Expansion Planning Considering Network Adequacy and Losses Using DCGA
Saeed Jalilzadeh, Ahad Kazemi, Hosein Haddadian and Meisam Mahdavi

15:00 – 15:20 [122] Dead-Time Elimination of PWM-Controlled Inverter/Converter without Separate Power Sources for Current Polarity Detection Circuit
Yong-Kai Lin and Yen-Shin Lai

15:20 – 15:40 [144] LLC Resonant Converter for Wireless Energy Transmission System with PLL Control
Tso-Sheng Chan and Chern-Lin Chen

Afternoon Tea Break and Poster 1 @ Level 4 Foyer	15:40 – 17:00 hrs
--	-------------------

Session Poster 1
Date/Time Tuesday, 25 November 2008 / 15:40 – 17:00 hrs
Venue Level 4 Foyer
Chair Dr. Wang Xiaoyu

15:40 – 17:00 [062] Multi-Mode MPPT Control for Improved Efficiency
Jung-Min Kwon, Woo-Young Choi and Bong-Hwan Kwon

15:40 – 17:00 [066] An Automated and Economic System for Measuring of the Current-Voltage Characteristics of Photovoltaic Cells and Modules
Dariga Meekhun, Vincent Boitier, Jean-Marie Dilhac and Gregory Blin

15:40 – 17:00 [068] Compound Material for Injection Molded PEM Fuel Cell Bipolar Plates
Jenn-Kun Kuo and Shiuh-Ming Chang

15:40 – 17:00 [071] A SCADA System Application in Load Management
Jung-Chin Chen, Jong-Ching Hwang and Ching-Terng Cheng

15:40 – 17:00 [073] Computer-Aided Automatic Measurement System for Characterizing PV Modules
Shun-Chung Wang, Yi-Hua Liu, Shun-Jih Wang and Jia-Ren Yang

15:40 – 17:00 [074] Photovoltaic Properties and Stability of Pentacene-Fullerene Double Heterojunction Devices
T. K. S. Wong and Y. Xu

15:40 – 17:00 [075] Optimal Allocation for Improving System Reliability Using AHP
Gwo-Luh Lee, Horng-Jyh Lin, Tse-Wei Yu, Jong-Yih Chen, Chih-Chieh Ma and Shang-Lee Chyow

15:40 – 17:00 [076] Development of Fault Location Algorithm for Distribution Networks with DG
Zhu Guo-Fang and Lu Yu-Ping

Technical Programme

- 15:40 – 17:00 [082] Voltage Transient Study of Wind Farm under Power System Fault
Xin-Yan Zhang and Wei-Qing Wang
- 15:40 – 17:00 [083] The Intelligent Control Method Study of Variable Speed Wind Turbine Generator
Xin-Yan Zhang, Jing Cheng and Wei-Qing Wang
- 15:40 – 17:00 [095] Economical Performance Study for NGCC System with CO₂ Removal Plant
Rongrong Zhai, Yongping Yang, Liqiang Duan and Qin Yan
- 15:40 – 17:00 [096] Exergy Analysis of CO₂ Recovery Process by Specific Consumption
Rongrong Zhai, Yongping Yang, Liqiang Duan and Qin Yan
- 15:40 – 17:00 [099] Solar Radiation Prediction Based on the Artificial Neural Networks Using the BP Algorithm
Gang Yang and Yongxian Du
- 15:40 – 17:00 [104] Considering the Torsional Frequencies of an Actual Wind Turbine to Prevent of SSR Phenomena
Saeed Jalilzadeh, Iman Dehestani Kolagar, Meisam Mahdavi and Vahid Nabaei
- 15:40 – 17:00 [105] The Study of the Protection Revision Method Based on the DG Effect to Protection Sensitivity
Lin Xia, Lu Yu-Ping and Wang Lian-He
- 15:40 – 17:00 [107] Fuzzy Controller of Variable Pitch Wind Driven Generator Based on Interpolation Algorithm
Peng Xuange, Li Yaolin and Li Peipei
- 15:40 – 17:00 [108] Based on CAN Bus Wind Generating Set Online Monitoring and Fault Diagnosis System
Li Yaolin, Peng Xuange and Li Peipei
- 15:40 – 17:00 [112] Evaluation of Solar Collector Plant to Contribute Climate Change Mitigation
M. Brenna, F. Foiadelli, M. Roscia and D. Zaninelli
- 15:40 – 17:00 [118] WRIG Based Wind Conversion System Excited by Matrix Converter with Current Control Strategy
S. Zhang, K. J. Tseng and T. D. Nguyen
- 15:40 – 17:00 [119] Study on Energy Efficiency of Bionic Utilization in the Solar Buildings
Sun Feng-Ming, Yin Bao-Quan, Hou Wan-Jun and Chen Jun-Hua
- 15:40 – 17:00 [121] Thermal Storage Cooling Tower for Underground Commercial Building
W. J. Liu, X. P. Miao, J. S. Wang, X. B. Ma and J. Ding
- 15:40 – 17:00 [123] A Flywheel Cell for Energy Storage System
Trong Duy Nguyen, King Jet Tseng, Shao Zhang and Chi Zhang
- 15:40 – 17:00 [127] Design of Modular Inverter for Distributed Power Generation
Fu-Sheng Pai, Shyh-Jier Huang, Min-Fu Hsieh and Chin-Ming Lin
- 15:40 – 17:00 [128] Distribution Model Analysis of High-Efficient Equipments Considering Rebate
Jong-Ryul Won and Jung-Hoon Kim
- 15:40 – 17:00 [132] Research on a Novel Buck-Boost Converter for Wind Turbine Systems
Bing Hu, Liuchen Chang and Yaosuo Xue

Technical Programme

- 15:40 – 17:00 [133] Control and Design of a Novel Buck-Boost Converter for Wind Turbine Applications
Bing Hu, Liuchen Chang and Yaosuo Xue
- 15:40 – 17:00 [136] The Impact on Power Quality by PWM Converter in Micro-Grid
Huang Wei, Zhang Jianhua, Xie Qinghua and Wu Ziping
- 15:40 – 17:00 [138] Controlling and Operating Analysis of DFIG Wind Generator Between in a Large Utility Network and in an Isolated Micro-Grid
Yang Jingyan, Huang Wei, Yang Renhua, Zhang Jianhua and Yang Xu
- 15:40 – 17:00 [139] Analysis of Characteristics of Simultaneous Faults in Electrical Power Systems Using Wavelet Transform
A. Ngaopitakkul, W. Pongchaisrikul and A. Kunakorn
- 15:40 – 17:00 [145] Simulation and Analysis on the Initial Temperature Profiles in Soils
Xibin Ma, Baoyi Cheng, Wenjie Liu and Jintian Li
- 15:40 – 17:00 [147] Soft Switching Interleaved Boost Converter for Photovoltaic Power Generation System
Jun-Ho Kim, Doo-Yong Jung, Jae-Hyung Kim, Su-Won Lee, Yong-Chae Jung and Chung-Yuen Won
- 15:40 – 17:00 [148] Stability Analysis of a Non-Inverting Synchronous Buck-Boost Power Converter for a Solar Power Management System
Jaw-Kuen Shiau, Chun-Jen Cheng and Ching-En Tseng
- 15:40 – 17:00 [156] Evaluation of Genetic Algorithm Based Solar Tracking System for Photovoltaic Panels
Syamsiah Mashohor, Khairulmizam Samsudin, Amirullah M. Noor and Adi Razlan A. Rahman
- 15:40 – 17:00 [237] Hybrid Eigenvalue Sensitivity for Design of Wide-Area PSS to Damp Power System Inter-Area Oscillation
Chunyan Li, Yuanzhang Sun, Xiaotao Peng and Xiangyi Chen
- 15:40 – 17:00 [242] Identifiability of Synchronous Generator Parameter Based on Physics Models
Xiangyi Chen, Xiaoming Zha and Chunyan Li
- 15:40 – 17:00 [130] Low Power Fuel Delivery with Programmable Concentration Control for Micro Direct Methanol Fuel Cells
Yuming Yang, Yung C. Liang and Kui Yao
- 15:40 – 17:00 [212] Stability Analysis of Microgrids with Constant Power Loads
D. P. Ariyasinghe and D. M. Vilathgamuwa

Wednesday, 26 November 2008

Registration	08:00 hrs
--------------	-----------

Exhibition @ Level 5 Foyer	09:00 – 17:00 hrs
----------------------------	-------------------

- Session** Solar Energy 2
Date/Time Wednesday, 26 November 2008 / 09:00 – 10:40 hrs
Venue Executive Seminar Room 4.1
Chair Prof. Ramaprabha Ramabadran
- 09:00 – 09:20 [157] Leakage Current Analysis of a Single-Phase Transformer-Less PV Inverter Connected to the Grid
L. Ma, F. Tang, F. Zhou, X. M. Jin and Y. B. Tong
- 09:20 – 09:40 [175] Modeling and Fault Simulation of Photovoltaic Generation Systems Using Circuit-Based Model
Kuei-Hsiang Chao, Ching-Ju Li and Sheng-Han Ho
- 09:40 – 10:00 [192] Fourth Order Buck Converter for Photovoltaic Maximum Power Point Tracking Applications
Veerachary Mummadi
- 10:00 – 10:20 [193] Improved Maximum Power Point Tracking Algorithm for Photovoltaic Sources
Veerachary Mummadi
- 10:20 – 10:40 [206] A Summary of Plane Division Maximum Power Point Tracking Methods
H. Koizumi
- Session** Wind Energy 2
Date/Time Wednesday, 26 November 2008 / 09:00 – 10:40 hrs
Venue Executive Seminar Room 4.2
Chair Prof. Wang Youyi
- 09:00 – 09:20 [106] Designing a Wind-Diesel Hybrid Remote Area Power Supply (RAPS) System
David Edwards and Michael Negnevitsky
- 09:20 – 09:40 [320] Soft Switched AC-Link Wind Power Converter
A. Balakrishnan, M. Amirabadi, H. A. Toliyat and W. Alexander
- 09:40 – 10:00 [143] Vector Control of the Brushless Doubly-Fed Machine for Wind Power Generation
S. Shao, E. Abdi and R. A. McMahan
- 10:00 – 10:20 [146] Losses and Pulsating Torques in DFIGs with Unbalanced Stator and Rotor Excitation
S. Djurovic and S. Williamson
- 10:20 – 10:40 [263] Interline Power Flow Controller (IPFC) Based Damping Controllers for Damping Low Frequency Oscillations in a Power System
Alivelu M. Parimi, Irraivan Elamvazuthi and Nordin Saad

Technical Programme

Session	Alternative Energy 2
Date/Time	Wednesday, 26 November 2008 / 09:00 – 10:40 hrs
Venue	Executive Seminar Room 5.1
Chair	Prof. Hyosung Kim
09:00 – 09:20	[134] Benzothiadiazole-Cored Regioregular Oligothiophenes as Building Blocks for Novel Crystalline Low Band-Gap Conjugated Polymers with Solution Processibility <i>J. Lu, F. Liang, N. Drolet, J. Ding, Y. Tao and R. Movileanu</i>
09:20 – 09:40	[137] Dynamic Modelling and Simulation of a Micro-Turbine Generation System in the Microgrid <i>Huang Wei, Zhang Jiahua, Wu Ziping and Niu Ming</i>
09:40 – 10:00	[150] A Novel Voltage-Boosting Converter with Passive Voltage Clamping <i>K. I. Hwu, Y. T. Yau and Y. H. Chen</i>
10:00 – 10:20	[155] Study on Microwave Radiation Pyrolysis of Biomass <i>Xiaoya Guo, Bo Zhou and Yong Zheng</i>
10:20 – 10:40	[354] Biogas Production from Banana Stem Waste: Optimisation of 10 L Sequencing Batch Reactor <i>N. Zainol, J. Salihon and R. Abdul-Rahman</i>

Session	Energy Distribution 2
Date/Time	Wednesday, 26 November 2008 / 09:00 – 10:40 hrs
Venue	Executive Media Theater
Chair	Prof. Malathi Veluchamy
09:00 – 09:20	[140] Voltage Stability Margin Enhancement Through Optimal Location of Var Compensator <i>M. Kowsalya, K. K. Ray and D. P. Kothari</i>
09:20 – 09:40	[196] Isolated H-Bridge VSC Based 3-Phase 4-Wire DSTATCOM for Power Quality Improvement <i>Bhim Singh, P. Jayaprakash and D. P. Kothari</i>
09:40 – 10:00	[225] A Two-Level 24-Pulse Voltage Source Converter with Fundamental Frequency Switching for HVDC System <i>D. Madhan Mohan, Bhim Singh and B. K. Panigrahi</i>
10:00 – 10:20	[269] Design and Analysis of User-Defined Constant Switching Frequency Current Control Based Four Leg DSTATCOM <i>Vincent George and Mahesh K. Mishra</i>
10:20 – 10:40	[174] Optimal Controller Design of SVC for System Stability Improvement <i>B. Khaki, B. Mozafari, A. Mehrtash, R. Sirjani and A. Parastar</i>

Session	Energy Storage 2
Date/Time	Wednesday, 26 November 2008 / 09:00 – 10:40 hrs
Venue	Function Room 4.1
Chair	Prof. Hamid Toliyat
09:00 – 09:20	[135] Application of ANN and DSM Techniques for Peak Load Management a Case Study <i>P. Ravi Babu and V. P. Sree Divya</i>
09:20 – 09:40	[173] A Clean Power System Combining Fuel Cell and Ultracapacitor and Its Application in Electric Scooter <i>Junbo Jia Gucheng Wang, Zengpei Zhu, Yew Thean Cham and Ming Han</i>

Technical Programme

- 09:40 – 10:00 [183] Improving the Capability of Solar Thermal Energy Storage by Using a Hybrid Energy Storage System
Zaeem Moosavi Mohamadi and Hassan Zohoor
- 10:00 – 10:20 [325] Wind Power Integration in Isolated Grids Enabled by Variable Speed Pumped Storage Hydropower Plant
Jon Are Suul, Kjetil Uhlen and Tore Undeland
- 10:20 – 10:40 [171] Dynamic Characteristic Study of Proton Exchange Membrane Fuel Cell
Junbo Jia, Youyi Wang, Ming Han and Yew Thean Cham

Session Energy Efficiency 2
Date/Time Wednesday, 26 November 2008 / 09:00 – 10:40 hrs
Venue Function Room 4.2
Chair Prof. Jen-Hao Teng

- 09:00 – 09:20 [151] Simple Design of a Soft-Switching Buck Converter
K. I. Hwu and Y. T. Yau
- 09:20 – 09:40 [153] Design of a Digitalized Burn-In Test Plant
K. I. Hwu and Y. H. Chen
- 09:40 – 10:00 [154] Development of Two Power Supply Modules Paralleled
K. I. Hwu and Y. T. Yau
- 10:00 – 10:20 [164] Ultra Step-Up DC-DC Converter with Reduced Switch
Abbas A. Fardoun and Esam H. Ismail
- 10:20 – 10:40 [165] SEPIC Converter with Continuous Output Current and Intrinsic Voltage Doubler Characteristic
Esam H. Ismail and Abbas A. Fardoun

Morning Tea Break	10:40 – 11:00 hrs
-------------------	-------------------

Session Solar Energy 3
Date/Time Wednesday, 26 November 2008 / 11:00 – 12:40 hrs
Venue Executive Seminar Room 4.1
Chair Prof. Denizar Martins

- 11:00 – 11:20 [222] DC Bus Regulation Strategy for Grid-Connected PV Power Generation System
Yaow-Ming Chen, Hsu-Chin Wu and Yung-Chu Chen
- 11:20 – 11:40 [224] Predicting the Electrical Behavior of Grid-Tied Photovoltaic Systems in Al Ain — UAE/Model and Case Study
A. Assi, M. Jama, K. Al Kathairi, I. Al Shehhi and S. Fattahi
- 11:40 – 12:00 [226] Integrating Solar Energy into Wet Cooling Tower to Prevent Plume Formation — A Novel Approach
M. H. Panjeshahi, M. Gharai and L. Ahmadi
- 12:00 – 12:20 [233] Modeling and Evaluation of a Terrestrial Solar Panel in Space Environment
Somayeh Imani, Amir Hossein Rezaie and Mohsen Taherbaneh
- 12:20 – 12:40 [238] Selective Hopping Maximum Power Point Tracking Method for PV Systems
Carlos Andrés Giraldo-Castañeda and Lionel R. Orama-Exclusa



Session	Wind Energy 3
Date/Time	Wednesday, 26 November 2008 / 11:00 – 12:40 hrs
Venue	Executive Seminar Room 4.2
Chair	Prof. Hiroyuki Mori
11:00 – 11:20	[163] Coordinate Control Strategy Based on Expert Decision System of Wind Turbine <i>Yao Xingjia, Wang Xiaodong, Xing Zuoxia and Liu Jun</i>
11:20 – 11:40	[166] Stabilization of Pitch Controlled Wind Turbine Induction Generator by STATCOM <i>Mamta M. Misal and M. K. Khedkar</i>
11:40 – 12:00	[186] PC Based Wireless Wind Data Analyser <i>R. L. Badami, S. Ashok and Suresh H. Jangamshetti</i>
12:00 – 12:20	[188] Reliability Evaluation of Wind Power in North Karnataka, India — A Case Study <i>G. Suchitra, Suresh H. Jangamshetti and A. B. Raju</i>
12:20 – 12:40	[262] Investigation on the Behavior and Harmonic Voltage Distortion of Terminal Voltage Regulation by Static Var Compensators for a Three Phase Self-Excited Induction Generator <i>B. Sawetsakulanond and V. Kinnares</i>



Session	Alternative Energy 3
Date/Time	Wednesday, 26 November 2008 / 11:00 – 12:40 hrs
Venue	Executive Seminar Room 5.1
Chair	Prof. Shih-Ming Chang
11:00 – 11:20	[182] Synthesis and Characterization of Perovskite Based Oxides for Solid Oxide Fuel Cell Materials <i>Ismunandar, B. Prijamboedi, N. R. Sari and A. Nursanto</i>
11:20 – 11:40	[202] Low Temperature Differential Stirling Engine-Based Power Generation <i>P. T. Gaynor, R. Y. Webb and C. C. Lloyd</i>
11:40 – 12:00	[205] An Improved Delta Modulation Technique for DC-DC Buck Converters <i>Yaow-Ming Chen, Yung-Chu Chen, Hsu-Chin Wu and Tsung-Ming Chen</i>
12:00 – 12:20	[215] Using Strong Sustainability to Optimize Electricity Generation Fuel Mixes <i>J. D. K. Bishop, G. A. J. Amaratunga and C. Rodriguez</i>
12:20 – 12:40	[258] A Small Segmented Oscillating Water Column Using a Savonius Rotor Turbine <i>Chi-Chien Lin, David G. Dorrell and Min-Fu Hsieh</i>



Session	Energy Distribution 3
Date/Time	Wednesday, 26 November 2008 / 11:00 – 12:40 hrs
Venue	Executive Media Theater
Chair	Dr. Mishra Sukumar
11:00 – 11:20	[287] A Physics-based Model of a HCCI Engine with Electric Mechanical Valves <i>Chia-Jui Chiang</i>
11:20 – 11:40	[308] CO ₂ Emission Basic Unit Control Mechanism in a Distributed Energy Management System Using the Market Oriented Programming <i>Y. Sugimoto, T. Miyamoto, S. Kumagai, K. Mori, S. Kitamura and T. Yamamoto</i>
11:40 – 12:00	[319] The Virtual Power Station <i>Glenn Platt, Ying Guo, Jiaming Li and Sam West</i>

Technical Programme

12:00 – 12:20 [335] “Living and Mobility” — A Novel Multipurpose in-House Grid Interface with Plug in Hybrid BlueAngel
Udaya K. Madawala, Paul Schweizer and Vinzenz Haerri

12:20 – 12:40 [141] Realization of Load Management by Power Line Carrier and LabVIEW
Rong-Ching Wu, Jin-Cheng Kang, Chen-Lin Sung and Ching-Tai Chiang

Session Energy Storage 3
Date/Time Wednesday, 26 November 2008 / 11:00 – 12:20 hrs
Venue Function Room 4.1
Chair Dr. Wei Huang

11:00 – 11:20 [190] Design and Modeling of Vacuum Packaged MEMS Thermoelectric Power Generator Using Heat Dissipation Path
Jin Xie and Chengkuo Lee

11:20 – 11:40 [191] Multi-Input Integrated Buck-Boost Converter for Photovoltaic Applications
Veerachary Mummadi

11:40 – 12:00 [194] Theoretical Study of the Output Energy for Various MEMS Based Electrostatic Mechanisms
Ye Mei Lim, Bin Yang, Rama Krishna Kotlanka, Chun Huat Heng, Jin Xie, Min Tang, Johnny He Han, Hanhua Feng and Chengkuo Lee

12:00 – 12:20 [213] Charge Equalizer Design Method Based on Battery Modularization
Hong-Sun Park, Chul-Ho Kim and Gun-Woo Moon

Session Energy Efficiency 3
Date/Time Wednesday, 26 November 2008 / 11:00 – 12:40 hrs
Venue Function Room 4.2
Chair Prof. Jong Ryul Won

11:00 – 11:20 [197] Wireless Automated Digital Energy Meter
P. Bharath, N. Ananth, S. Vijetha and K. V. Jyothi Prakash

11:20 – 11:40 [203] Optimum Ecology Driving for Electrical Vehicle and Fabrication of Small Fuel Cell Electrical Vehicle
Y. Takahashi, K. Hirayama, K. Iwaki, H. Suzuki and T. Tanaka

11:40 – 12:00 [208] Energy Consumption Modeling and Optimization for Production Machines
A. Dietmair and A. Verl

12:00 – 12:20 [210] Nonintrusive Method for Estimating Field Efficiency of Inverter-Fed Induction Motor Using Measured Values
P. Phumiphak and C. Chat-Uthai

12:20 – 12:40 [214] Performance Estimation Method for In-Service Single-Phase Induction Motors
P. Phumiphak and C. Chat-Uthai

Session Solar Energy 4
Date/Time Wednesday, 26 November 2008 / 14:00 – 15:40 hrs
Venue Executive Seminar Room 4.1
Chair Prof. Terence Wong

14:00 – 14:20 [244] Cost Boundaries for Future PV Solar Cell Modules
B. Azzopardi, J. Mutale and D. Kirschen

14:20 – 14:40 [254] Series Connected Photovoltaic Power Inverter
Fei Kong, Cuauhtemoc Rodriguez, Gehan A. J. Amaratunga and Sanjib Kumar Panda

Technical Programme

- 14:40 – 15:00 [256] Modular Cylindrical Photovoltaic Array for Fixed and Portable Applications
M. Tocher
- 15:00 – 15:20 [281] Design and Experience of Grid-Connecting Photovoltaic Power System
Wang Jianqiang and Li Jingxin
- 15:20 – 15:40 [290] A Simulation Method for Maximum Power Point Tracking Against Stepped I-V Characteristics
T. Arayashiki and H. Koizumi

Session Wind Energy 4
Date/Time Wednesday, 26 November 2008 / 14:00 – 15:40 hrs
Venue Executive Seminar Room 4.2
Chair Prof. Chem Nayar

- 14:00 – 14:20 [199] Stand Alone Wind Power Generating System Employing Permanent Magnet Synchronous Generator
V. Sheeja, P. Jayaprakash, Bhim Singh and R. Uma
- 14:20 – 14:40 [201] Economic Index for Selection of Wind Turbine Generator at a Site
Sangamesh S. Doddamani and Suresh H. Jangamshetti
- 14:40 – 15:00 [247] A Novel Speed-Sensorless Adaptive Hill Climbing Algorithm for Fast and Efficient Maximum Power Point Tracking of Wind Energy Conversion Systems
Kazmi Syed Muhammad Raza, Hiroki Goto, Hai-Jiao Guo and Osamu Ichinokura
- 15:00 – 15:20 [267] Z-Source Inverter Based Wind Power Generation System
U. Supatti and F. Z. Peng
- 15:20 – 15:40 [273] Optimal Power Extraction Algorithm for DTC in Wind Power Generation Systems
Jeong Min Kwon, Jung Hun Kim, Sung Hyo Kwak and Hong Hee Lee

Session Alternative Energy 4
Date/Time Wednesday, 26 November 2008 / 14:00 – 15:40 hrs
Venue Executive Seminar Room 5.1
Chair Dr. David Dorrell

- 14:00 – 14:20 [070] Regional Behavior Impacts of Electricity Generation in Iranian Electricity Market
Z. Tavassoli Hojati, A. Naghavi, S. F. Ghaderi and M. A. Azadeh
- 14:20 – 14:40 [232] Hybrid Offshore-Wind and Tidal Turbine (HOTT) Energy Conversion I (6-Pulse GTO Rectifier and Inverter)
Mohammad Lutfur Rahman and Yasuyuki Shirai
- 14:40 – 15:00 [235] Development of a Hydrogen Fuelled 1 kW Ultra Micro Gas Turbine with Special Respect to Designing, Testing and Mapping of the μ -Scale Combustor
A. E. Robinson, H. H.-W. Funke, P. Hendrick, E. Recker and J. Peirs
- 15:00 – 15:20 [249] A Novel Isolated DC DC Converter with Improved Efficiency for Fuel Cell Based DC Power Supply Systems
Supratim Basu and Tore. M. Undeland
- 15:20 – 15:40 [351] A Multiphysics Approach to the Design of a Seawave Energy Conversion System
Angelo Bonanno, Vincenzo Franzitta, Francesco Paolo Muzio and Marco Trapanes

Technical Programme



Session	Energy Distribution 4
Date/Time	Wednesday, 26 November 2008 / 14:00 – 15:40 hrs
Venue	Executive Media Theater
Chair	Dr. Toshiyuki Miyamoto
14:00 – 14:20	[069] Simulation of the Dynamic Model of Energy Consumption Structure in Different Periods in China <i>Wang Haining and Xue Huifeng</i>
14:20 – 14:40	[158] Risk Anatomy of Data Center Power Distribution Systems <i>Montri Wiboonrat</i>
14:40 – 15:00	[195] Typical Schemes of Feeder Automation for Rural Areas of China <i>Yinghui Xu and Xiaohui Xu</i>
15:00 – 15:20	[219] Electrification of Isolated Areas by Interconnecting Renewable Sources (ERD project): Lessons Learned <i>B.Michelon, A.Nejmi, J.Dos Ghali, A. Dahman Saïdi and J.-C.Bolay</i>
15:20 – 15:40	[231] Combined Active and Reactive Power Control with Converter Interfaced Energy Sources <i>F. Hassan, M. Wämundson and M. Bollen</i>



Session	Energy Storage 4
Date/Time	Wednesday, 26 November 2008 / 14:00 – 15:40 hrs
Venue	Function Room 4.1
Chair	Prof. Chengkuo Lee
14:00 – 14:20	[223] Multiphysics and Energetic Modeling of a Vanadium Redox Flow Battery <i>Christian Blanc and Alfred Rufer</i>
14:20 – 14:40	[234] Benefits of Energy Storages for Wind Power Trading <i>S. Völler, A.-R. Al-Awaad and J. F. Verstege</i>
14:40 – 15:00	[248] Improvement the Possibilities of Capacitive Energy Storage in Metro Railcar by Simulation <i>I. Szenasy</i>
15:00 – 15:20	[299] Economic Modeling of a Seawater Pumped-Storage System in the Context of São Miguel <i>A. Pina, C. S. Ioakimidis and P. Ferrão</i>
15:20 – 15:40	[301] Energy Storage System Base on Supercapacitors with an Unregulated DC–DC Converter and Selective Intermediate Taps <i>M. Uno and H. Toyota</i>



Session	Energy Efficiency 4
Date/Time	Wednesday, 26 November 2008 / 14:00 – 15:40 hrs
Venue	Function Room 4.2
Chair	Prof. Yoshihiko Takahashi
14:00 – 14:20	[184] A New Method for Increasing Competition in Transmission Expansion Planning <i>R. Sirjani, B. Khaki, A. Pirayesh Neghab, A. Mehrtash and A. Parastar</i>
14:20 – 14:40	[227] A Numerical Study of Regional Air Conditioning Mechanism <i>K. David Huang, Nguyen Anh Tuan, Yang-Cheng Shih and Kuo-Tung Tseng</i>

Technical Programme

- 14:40 – 15:00 [241] Conversion of Conventional Commercialized Window Type Air Conditioning Unit into a Portable Air Conditioning-Heat Pump Unit
N. Somsuk, T. Wessapan and S. Teekasap
- 15:00 – 15:20 [277] Self-Tuning Fuzzy Controller for Zero Voltage Switching Power Supply
Prakit Liengpradis and Nimit Boonpirom
- 15:20 – 15:40 [278] Two-Stage Low-Frequency Square-Wave-Driven Electronic Ballast for HID Lamps
Chun-An Cheng, Zheng-He Kuog and Yung-Chine Wu

Afternoon Tea Break and Poster 2 @ Level 4 Foyer	15:40 – 17:00 hrs
--	-------------------

Session Poster 2
Date/Time Wednesday, 26 November 2008 / 15:40 – 17:00 hrs
Venue Level 4 Foyer
Chair Dr. Wang Xiaoyu

- 15:40 – 17:00 [084] An Economic Analysis Model for the Energy Storage Systems in a Deregulated Market
Rong-Ceng Leou
- 15:40 – 17:00 [126] Design and Implementation of a RFID-Based Power Meter and Outage Recording System
Shun-Yu Chan, Shang-Wen Luan, Jen-Hao Teng and Ming-Chang Tsai
- 15:40 – 17:00 [129] Optimal Capacitor Control for Unbalanced Distribution Systems with Distributed Generations
Jen-Hao Teng, Chia-Yen Chen, Chi-Fa Chen and Yi-Hwa Liu
- 15:40 – 17:00 [160] Development of an Energy Efficient Street Light Driving System
Po-Yen Chen, Yi-Hua Liu, Yeu-Tornng Yau and Hung-Chun Lee
- 15:40 – 17:00 [161] RGB LED Backlight Driving System with Area Control
Po-Yen Chen, Yi-Hua Liu and Jen-Hao Teng
- 15:40 – 17:00 [167] Individual Pitch Control for Variable Speed Turbine Blade Load Mitigation
Yao Xingjia, Wang Xiaodong, Xing Zuoxia, Liu Yingming and Liu Jun
- 15:40 – 17:00 [168] Dependent-Chance Programming Based Optimization Analysis on Integration Capacity of Wind
Xu Fei, Lu Zongxiang and Min Yong
- 15:40 – 17:00 [176] The IEC 61970-Based Software Frame and Information Integration of EMS for a Multi-Distributed-Generation Microgrid System
Mao Meiqin, Ding Ming, Liuchen Chang and Su Jianhui
- 15:40 – 17:00 [177] Integration and Intelligent Control of Micro-Grids with Multi-Energy Generations: A Review
Mao Meiqin, Liuchen Chang and Ding Ming
- 15:40 – 17:00 [179] Auto-Disturbance Rejection Controller Design for Superconducting Magnetic Energy Storage
Xiaotao Peng, Jun Yang, Houzhen Cui and Jinyu Wen
- 15:40 – 17:00 [180] Determining the Emergency Capacity of the Upper Reservoir for Black-Start in a Pumped Storage Plant
Jingfu Shang, Sheng Li, Ziping Wu, Weiwei Zhao and Jianhua Zhang

Technical Programme

- 15:40 – 17:00 [181] Design of City Air Temperature Observation System for Energy Saving Education
K. Takemata and Y. Kawata
- 15:40 – 17:00 [189] Source Impedance to the Integration of Wind and Solar Power System
Mu-Kuen Chen and Chao-Yuan Cheng
- 15:40 – 17:00 [198] Partial Jacobian Matrix Based Method for Assessing Reactive Power/Voltage Support Ability of Wind Farm
N. Chen, L. Z. Zhu, W. Wang and X. D. Zhu
- 15:40 – 17:00 [200] Multi-Target Controller of Three-Level NPC Based VSC-HVDC Transmission System and Its RTDS Simulation
Jianhua Zhang, Sheng Li, Jingfu Shang, Weiwei Zhao and Chunye Li
- 15:40 – 17:00 [207] Operational Analysis and Performance Comparison of Current-Type Z-Source Inverters
DingLi, Feng Gao, Poh Chiang Loh, Frede Blaabjerg and Lei Zhang
- 15:40 – 17:00 [211] Development and Test of the Power Multilevel Converter for Wind Turbine Systems
Y. Y. Skorokhod and S. I. Volskiy
- 15:40 – 17:00 [220] Adaptive Protection Schemes of Distributed Generation at Distribution Network for Automatic Reclosing and Voltage Sags
Joon-Ho Choi, Soon-Ryul Nam, Hae-Kon Nam and Jae-Chul Kim
- 15:40 – 17:00 [221] Small Scale Production of Electricity — A Trend for the Future?
J. Palm and M. Tengvard
- 15:40 – 17:00 [228] A VSC-HVDC Fuzzy Controller to Damp Oscillation of AC/DC Power System
Chunye Li, Sheng Li, Fuchun Han, Jingfu Shang and Ermin Qiao
- 15:40 – 17:00 [230] The Energy Conversion System with Piezoelectric Effect for Wireless Sensor Network
Jae-Yun Lee, Jae-Geun Oh, Kwang-Soo Kim and Bumkyoo Choi
- 15:40 – 17:00 [236] Identifying Bad Parameters of State Estimation Considering the WAMS Measurements
Dalu Li, Rui Li, Yuanzhang Sun and Han Chen
- 15:40 – 17:00 [240] Selection of Installing Locations and Feedback Signals of Wide-Area Damping Controller in Large Scale Power Systems
Chunyan Li, Yuanzhang Sun and Xiangyi Chen
- 15:40 – 17:00 [243] Comparative Study of PWM Converter Controls for Grid Integration of Renewable Energy
Shuhui Li, Tim A. Haskew and Jeff Jackson
- 15:40 – 17:00 [250] Nonlinear Average Current Mode Control for a DC-DC Buck Converter
Sreenu Kancherla and R. K. Tripathi
- 15:40 – 17:00 [252] Control Parameter Optimization for a Microgrid System Using Particle Swarm Optimization
I. Chung, W. Liu, D. A. Cartes and K. Schoder
- 15:40 – 17:00 [255] Wireless Sensor Network for Measuring Thermal Properties of Borehole Heat Exchangers
J. Martos, J. Torres, J. Soret and A. Montero
- 15:40 – 17:00 [260] Investigation on the Performance Between Standard and High Efficiency Induction Machines Operating as Grid Connected Induction Generators
B. Sawetsakulanond, P. Hothongkham and V. Kinnares

Technical Programme

- 15:40 – 17:00 [261] Investigation on the Performance Between Standard and High Efficiency Induction Machines Operating as Self-Excited Induction Generators Feeding the Non-Linear Loads
B. Sawetsakulanond and V. Kinnares
- 15:40 – 17:00 [270] Investigation on Congestion-Based Optimal Energy Price for Competitive Electricity Market
M. B. Nappu, T. K. Saha and P. A. J. Fonseka
- 15:40 – 17:00 [271] A New Concept of Small-Compressed Air Energy Storage System Integrated with Induction Generator
V. Vongmanee and V. Monyakul
- 15:40 – 17:00 [272] High Efficiency Current-Doubler Rectifier with Low Output Current Ripple and High Step-Down Voltage Ratio
Chih-Lung Shen, Cheng-Tao Tsai and Yu-En Wu
- 15:40 – 17:00 [284] Interleaved Soft-Switching Buck Converter with Coupled Inductors
Cheng-Tao Tsai and Chih-Lung Shen
- 15:40 – 17:00 [286] Pulse Width Modulation (PWM) and Over-Modulation Schemes: a Review for Wind Turbine Systems Application
Yin Bo, Kim B. Larsen and Heng Deng
- 15:40 – 17:00 [288] Development of a Fuzzy-Q Control for Achieving Robust Inverter Systems
Yu-En Wu, Chih-Lung Shen and Cheng-Tao Tsai
- 15:40 – 17:00 [291] Performance Evaluation of Time-Delay Control Schemes for Uninterruptible Power Supplies
Poh C. Loh, Y. Tang, F. Blaabjerg and P. Wang
- 15:40 – 17:00 [300] Equalization Technique Utilizing Series—Parallel Connected Supercapacitors for Energy Storage System
M. Uno and H. Toyota
- 15:40 – 17:00 [303] Intelligent Control for Intentional Islanding Operation of Microgrids
I. J. Balaguer, U. Supatti, N-S. Choi, Q. Lei and F. Z. Peng
- 15:40 – 17:00 [306] Dynamic Voltage Restorer as Sag Mitigator and Harmonic Suppressor
K. Chandrasekaran, P. A. Vengka and Mohd Noh Karsiti
- 15:40 – 17:00 [309] Narrow Pulsed Electric Field Generator Using Forward / Flyback Hybrid Converters for Liquid Food Processing
Y.-D. Chang, S.-Y. Tseng, T.-F. Wu and H.-R. Yang
- 15:40 – 17:00 [311] Buck Converter Associated with Active Clamp Flyback Converter for PV Power System
S.-Y. Tseng, Y.-J. Li and Y.-J. Wu
- 15:40 – 17:00 [327] A Doubly-Fed Induction Generator Dynamic Model for its Use on Wind Power Generation Studies
Antonio Jesús Pujante López, Juan Álvaro Fuentes Moreno, Emilio Gómez Lázaro and Antonio Viguera Rodríguez
- 15:40 – 17:00 [328] Dynamic Economic Dispatch Under Deregulated Power Market Using an Improved Differential Evolution Approach
T. W. Lau, T. S. Chung, C. Y. Chung and S. L. Ho
- 15:40 – 17:00 [178] A New Methodology for Optimizing the Size of Hybrid PV/Wind System
Yang Qi, Zhang Jianhua, Liu Zifa, Xia Shu and Li Weiguo

Thursday, 27 November 2008

Registration	08:00 hrs
--------------	-----------

Session Solar Energy 5
Date/Time Thursday, 27 November 2008 / 09:00 – 10:20 hrs
Venue Executive Seminar Room 4.1
Chair Dr. Syamsiah Mashohor

09:00 – 09:20 [298] Effects on Short Circuit Level of PV Grid-Connected Systems Under Unintentional Islanding
S. Phuttapatimok, A. Sangswang and K. Kirtikara

09:20 – 09:40 [304] Variable Structure PWM Controller for High Efficient PV Inverters
S. Oh and M. Sunwoo

09:40 – 10:00 [310] Implementation and Performance Evaluation of a Low-Cost Current-Source Grid-Connected Inverter for PV Applications
G. Ertasgin, D. M. Whaley, N. Ertugrul and W. L. Soong

10:00 – 10:20 [149] A Solar Energy Harvesting Circuit for Low Power Applications
D. Dondi, A. Bertacchini, L. Larcher, P. Pavan, D. Brunelli and L. Benini

Session Wind Energy 5
Date/Time Thursday, 27 November 2008 / 09:00 – 10:40 hrs
Venue Executive Seminar Room 4.2
Chair Dr. Bing Hu

09:00 – 09:20 [280] Detailed Investigation of Semi-Bridge Switched-Mode Rectifier for Small-Scale Wind Turbine Applications
M. Pathmanathan, C. Tang, W. L. Soong and N. Ertugrul

09:20 – 09:40 [347] Application of Gaussian Process to Wind Speed Forecasting for Wind Power Generation
Hiroyuki Mori and Eitaro Kurata

09:40 – 10:00 [289] Operational Restrictions with Maximum Power Extraction of DFIG Connected Wind Farms
A. P. Tennakoon, A. Arulampalam, J. B. Ekanayake, S. G. Abeyratne and A. M. U. S. K. Alahakoon

10:00 – 10:20 [313] Field Experience with an Islanded Micro Wind Power Plant
C. H. Dharmakeerthi, A. Atputharajah and J. B. Ekanayake

10:20 – 10:40 [355] Reactive Power Optimization Control of Wind Farms with Fixed-Speed Wind Turbine Generators
Xunwen Su, Zengqiang Mi, Xingjie Liu and Tao Wu

Session Alternative Energy 5
Date/Time Thursday, 27 November 2008 / 09:00 – 10:40 hrs
Venue Executive Seminar Room 5.1
Chair Dr. Veerachary Mummadi

09:00 – 09:20 [120] Intelligent Controller for Electric Vehicle
Poorani Shivkumar

Technical Programme

- 09:20 – 09:40 [251] Interleaved Boost Converter for Hybrid Fuel Cell Systems
B. Šašić, M. Živanov, L. Nagy and M. Lazić
- 09:40 – 10:00 [253] Current THD Reduction and Anti-Islanding Detection in Distributed Generation with Grid Voltage Distortion
Hyung Soo Mok, Gyu Ha Choe, Sang Hoon Kim, Jeong Min Lee and In Young Su
- 10:00 – 10:20 [265] Experimental and Modeling Aspects of Producer Gas Engine
G. Sridhar
- 10:20 – 10:40 [282] Sustainability Assessment of Biofuels as Alternative Energy Resources
Q. Z. Yang and B. Song

Session Energy Distribution 5
Date/Time Thursday, 27 November 2008 / 09:00 – 10:40 hrs
Venue Executive Media Theater
Chair Dr. Stephen Lindsay

- 09:00 – 09:20 [152] Torsional Torque Suppression of Decentralized Generators Using H-Infinity Observer
Eitaro Omine, Tomonobu Senjyu, Endusa Billy Muhando, Hideomi Sekine, Toshihisa Funabashi and Ahmed Yousuf Saber
- 09:20 – 09:40 [337] Congestion Relief and Load Curtailment Reduction with FACTS Devices
Barati Masoud, Shayanfar Heidar Ali and Kazemi Ahad
- 09:40 – 10:00 [338] Congestion Management by a Real-Time Optimal Dispatch through Balancing Mechanism Method for Electricity Markets
Barati Masoud, Shayanfar Heidar Ali and Kazemi Ahad
- 10:00 – 10:20 [125] Modeling and Power Quality Analysis of STATCOM Using Phasor Dynamics
M. A. Hannan, A. Mohamed and A. Hussain
- 10:20 – 10:40 [341] A Risk Analysis Method for Carbon Price Prediction with Hybrid Intelligent Model in Consideration of Variable Selection of Graphical Modeling
Hiroyuki Mori and Wenjun Jiang

Session Energy Storage 5
Date/Time Thursday, 27 November 2008 / 09:00 – 10:20 hrs
Venue Function Room 4.1
Chair Prof. Don Mahinda Vilathgamuwa

- 09:00 – 09:20 [332] A Model for a Fly-Wheel Driven by a Grid Connected Switch Reluctance Machine
Athula Rajapakse, Udaya K. Madawala and Dharshana Muthumani
- 09:20 – 09:40 [334] An Electric Micro-Scooter with a Super-Capacitor Energy Buffer
Vinzenz Haerri, Udaya K. Madawala and Daniel Zabkar
- 09:40 – 10:00 [344] A Practical Approach to Tuning of SMES Controller Based on Synchronized Phasor Measurements for Interconnected Power System with Wind Farms
S. Dechanupaprittha, C. Li, M. Watanabe, Y. Mitani, K. Hongesombut and I. Ngamroo
- 10:00 – 10:20 [353] High Current, Low Voltage Modular Power Converter For Lead Acid Battery Charging
Ilknur Colak and R. Nejat Tuncay



Session Energy Efficiency 5
Date/Time Thursday, 27 November 2008 / 09:00 – 10:40 hrs
Venue Function Room 4.2
Chair Prof. Jian-Long Kuo

09:00 – 09:20 [279] An Electronic Ballast with Digitally Constant Power Control for Supplying Automotive HID Lamps
Chun-An Cheng, Kun-Jheng Lin and Kuan-Lin Chu

09:20 – 09:40 [294] Efficiency Improvement on PDP Sustainer with Half-Voltage Energy Recovery Circuit
Jian-Long Kuo

09:40 – 10:00 [297] New Space Vector Control Approach for Four Switch Three Phase Inverter Under DC — Link Voltage Ripple
Hong-Hee Lee, Phan Quoc Dzung, Le Minh Phuong, Le Dinh Khoa and Huynh Tan Thanh

10:00 – 10:20 [314] Design, Construction and Control of a Quasi-Resonant SMPS Working at 2 MHz
S. Uytterhoeven, P. Jacqmaer and J. Driesen

10:20 – 10:40 [312] Design and Analysis of Direct Torque Control Based Brushless DC Drives With Reduced Torque Ripple
G. Venu Madhav, P. Paul Clee and Guruswamy Revena

Morning Tea Break	10:40 – 11:00 hrs
-------------------	-------------------



Session Solar Energy 6
Date/Time Thursday, 27 November 2008 / 11:00 – 12:00 hrs
Venue Executive Seminar Room 4.1
Chair Dr. Anawach Sangswang

11:00 – 11:20 [326] Filter Design for Grid Connected PV Inverters
Hyosung Kim and Kyoung-Hwan Kim

11:20 – 11:40 [218] Wind/PV/Diesel Micro Grid System Implemented in Remote Islands in the Republic of Maldives
Chem Nayar, Markson Tang and Wuthipong Suponthana

11:40 – 12:00 [229] Remote Area Micro-Grid System Using Diesel Driven Doubly Fed Induction Generators, Photovoltaic and Wind Generators
C. V. Nayar



Session Wind Energy 6
Date/Time Thursday, 27 November 2008 / 11:00 – 12:20 hrs
Venue Executive Seminar Room 4.2
Chair Prof. David Edwards

11:00 – 11:20 [239] Stability of the Micro-Grid with Wind Power Generation
L. Sovannarith and N. Hoonchareon

11:20 – 11:40 [330] Application of Interval Computation Technique to Fixed Speed Wind Energy Conversion System
R. K. Thakur and V. Agarwal

11:40 – 12:00 [331] Data Mining for Prediction of Wind Farm Power Ramp Rates
A. Kusiak and H. Y. Zheng

Technical Programme

12:00 – 12:20 [342] Feature Extraction of Meteorological Data Using Regression Tree for Wind Power Generation
Hiroyuki Mori and Akira Awata

Session Alternative Energy 6
Date/Time Thursday, 27 November 2008 / 11:00 – 12:40 hrs
Venue Executive Seminar Room 5.1
Chair Dr. M. H. Haque

11:00 – 11:20 [302] Introduction of Electric Vehicles in an Island as a Driver to Increase Renewable Energy Penetration
A. Pina, C. S. Ioakimidis and P. Ferrão

11:20 – 11:40 [315] Simulation of Electric Drives Using freeFOClib
Dietmar Winkler and Clemens Gühmann

11:40 – 12:00 [322] Pios Fuel Cell Motorcycle; Design, Development and Test of Hydrogen Fuel Cell Powered Vehicle
J. Weigl, I. Inayati, E. Zind and H. Saidi

12:00 – 12:20 [333] Maximize Piezoelectric Energy Harvesting Using Synchronous Charge Extraction Technique for Powering Autonomous Wireless Transmitter
Y. K. Tan, J. Y. Lee and S. K. Panda

12:20 – 12:40 [348] Emulation and Power Conditioning of Outputs From a Direct Drive Wave Energy Converter
Zanxiang Nie, Peter C. J. Clifton, Yunxiang Wu and Richard A. McMahon

Session Energy Distribution 6
Date/Time Thursday, 27 November 2008 / 11:00 – 12:20 hrs
Venue Executive Media Theater
Chair Dr. Udaya Madawala

11:00 – 11:20 [204] Discrimination of Power Quality Disturbances Using Combined Mathematical Transforms and Artificial Neural Network
D. Devaraj and P. Rathika

11:20 – 11:40 [339] Optimal Price and Quantity Determination of Retailer Electric Contract and Maximizing Social Welfare in Retail Electrical Power Markets with DG
Barati Masoud, Shayanfar Heidar Ali and Kazemi Ahad

11:40 – 12:00 [292] Stability Analysis Based on Synchronized Phasor Measurements
B. Monchusi, Y. Mitani, L. Changsong and S. Dechanupaprittha

12:00 – 12:20 [317] Optimal Market Settlements Incorporating Voltage Stability
Raul Bachiller and Le Anh Tuan

Session Energy Storage 6
Date/Time Thursday, 27 November 2008 / 11:00 – 12:20 hrs
Venue Function Room 4.1
Chair Dr. David Watts

11:00 – 11:20 [216] Experimental Study of Flow Energy Merger of Hybrid Pneumatic Power System
K. David Huang, Khong Vu Quang and Kuo-Tung Tseng

11:20 – 11:40 [246] An Improved PV Battery Charger for Low Cost Low Power Stand Alone Low Power Systems
Supratim Basu, Lars Norum and Dhaval Dalal

Technical Programme

11:40 – 12:00 [349] A First-Order Energy Storage Requirements Estimation for An Archimedes Wave Swing Park
N. Daratha, H. Polinder and M. G. D. S. Prado

12:00 – 12:20 [357] Developing a PEM Fuel Cell Electrical Equivalent Circuit
Ali. I. Maswood and S. Nandakumar

Session Energy Efficiency 6
Date/Time Thursday, 27 November 2008 / 11:00 – 12:20 hrs
Venue Function Room 4.2
Chair Dr. Nesimi Ertugrul

11:00 – 11:20 [090] Power Loss Study of Inverter-fed Machine Drives using Discontinuous Pulse Width Modulation
Y. Wu, S. Shao, R. A. McMahon, Y. Zhan and A. M. Knight

11:20 – 11:40 [114] Reactive Power Dispatch Scheme Evaluation for Synchronous Based Distributed Generators to Reduce Real Power Loss in Distribution Systems
Komson Daroj and Watthana Limpananwadi

11:40 – 12:00 [185] A New Method for Power Loss Allocation by Modified Y-Bus Matrix
A. Parastar, A. Pirayesh, B. Mozafari, B. Khaki, R. Sirjani and A. Mehrdash

12:00 – 12:20 [352] New Technologies for Rural Lighting in Developing Countries
G. Ofualagba, V. Oweh and J. Efejomah

Lunch Break	12:40 – 14:00 hrs
-------------	-------------------

Session Electrical Fault Protection
Date/Time Thursday, 27 November 2008 / 14:00 – 15:40 hrs
Venue Executive Seminar Room 4.1
Chair Prof. Kuei-Hsiang Chao

14:00 – 14:20 [091] A New Fault Location Scheme Based on Distributed Short-Circuit Current in Distribution System with DGs
Ma Jinjie, Lu Yuping, Du Jiao and Lin Xia

14:20 – 14:40 [169] A Transient Current Based Bus Zone Protection Scheme Using Wavelet Transform
Shaik Abul Gafoor, N. Rama Devi and P. V. Ramana Rao

14:40 – 15:00 [172] A Fault Location Method for Power Cables Based on Fractal Theory
Zhensheng Wu and Xuechang Yang

15:00 – 15:20 [285] Classification and Discussions on Methods for Cascading Failure Analysis in Transmission System
David Watts and Hui Ren

15:20 – 15:40 [295] Three Zones Adaptive Characteristic of the Mho Distance Relay by KU Method
S. Dechphung and T. Saengsuwan

Session Wind Energy 7
Date/Time Thursday, 27 November 2008 / 14:00 – 15:20 hrs
Venue Executive Seminar Room 4.2
Chair Prof. Andrew Kusiak

14:00 – 14:20 [257] Fault Ride-Through of Doubly-Fed Induction Generator with Converter Protection Schemes
Jin Yang, David G. Dorrell and John E. Fletcher

Technical Programme

- 14:20 – 14:40 [089] Output Power Leveling of Wind Generation System Using Inertia of Wind Turbine
Tomonobu Senjyu, Yasutaka Ochi, Yasuaki Kikunaga, Motoki Tokudome, Endusa Billy Muhando, Atsushi Yona and Toshihisa Funabashi
- 14:40 – 15:00 [081] Summerization and Study of Fault Diagnosis Technology of the Main Components of Wind Turbine Generator System
Xin-Yan Zhang, Shan He, Peiyi Zho and Wei-Qing Wang
- 15:00 – 15:20 [259] Design and Construction of a Three Phase of Self-Exited Induction Generator
B. Sawetsakulanond, P. Hothongkham and V. Kinnares

Session Electrical Machines
Date/Time Thursday, 27 November 2008 / 14:00 – 15:20 hrs
Venue Executive Seminar Room 5.1
Chair Prof. Chih-Lung Shen

- 14:00 – 14:20 [293] Field-Oriented Coscant Modeling for Axial-Flux Two-Phase Brushless Motor Used in Electric Vehicle
Jian-Long Kuo
- 14:20 – 14:40 [305] Fault Detection Using ANN for Four Switch Three Phase Inverter Fed Induction Motor Drive
Hong-Hee Lee, Phan Quoc Dzung, Truong Phuoc Hoa, Le Minh Phuong and Nguyen Xuan Bac
- 14:40 – 15:00 [323] Wide Speed Operation of a Direct Torque and Flux Controlled IPM Synchronous Motor Drive Without a Mechanical Sensor
G. Foo, S. Sayeef and M. F. Rahman
- 15:00 – 15:20 [336] A Novel Variable Speed Cage Induction Generator
Udaya K. Madawala, Dharshana Muthumani and Jonathan Bradshaw

Session Energy Distribution 7
Date/Time Thursday, 27 November 2008 / 14:00 – 15:20 hrs
Venue Executive Media Theater
Chair Prof. Mariacristina Roscia

- 14:00 – 14:20 [316] Forecasting Spot Electricity Market Prices Using Time Series Models
Dawit H. Mazengia and Le Anh Tuan
- 14:20 – 14:40 [077] Impact of Demand Response Programs on System and Nodal Reliability of a Deregulated Power System
Rahmat Azami and Amir Faraji Fard
- 14:40 – 15:00 [085] Improved Voltage-Current Mode Feeder Automation System Based on GPRS
Yinghui Xu and Xiaohui Xu
- 15:00 – 15:20 [110] Comparative Analysis for Penetration of Distributed Generation in Power Systems
Deependra Singh, Devender Singh and K. S. Verma