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Location: Room 102B

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Location: Room 104A

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Location: Room 102A

March 19, 2013 8:30 - 12:00

Session Chairs: Gerry Moschopoulos, *Western University, Canada*
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Burak Ozpineci, *Oak Ridge National Laboratory, United States*

Session T10: Multi-Level Converters

Location: Room 104B

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Session Chairs: Joseph Olorunfemi Ojo, *Tennessee Tech University*
Prasad Enjeti, *Texas A&M University*

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Session T11: High Performance Devices in Circuits

Location: Room 104C

March 20, 2013 8:30 - 10:10

Session Chairs: Liang Zhou, *Transphorm, Inc.*
Kent Wanner, *Phoenix International*

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Location: Room 103B

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Omer Onar, *Oak Ridge National Laboratory*

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Location: Room 102B

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Location: Room 103A

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Douglas Hopkins, *NC State University*

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Location: Room 104B

March 20, 2013 14:00 - 17:30

Session Chairs: Amir Rahimi, *International Rectifier*
Liang Zhou, *Transphorm, Inc.*

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Session T16: Converters/Control

Location: Room 103B

March 20, 2013 14:00 - 17:30

Session Chairs: Robert Balog, *Texas A&M*
Zhong Nie, *Chrysler Group LLC*

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Yan-Fei Liu, *Queen's University, Canada*

Session T17: Motor Drives I

Location: Room 104A

March 20, 2013 14:00 - 17:30

Session Chairs: Maryame Saeedifard, *Purdue University*

Wei Qiao, *University of Nebraska*“CLincoln

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Location: Room 103A

March 20, 2013 14:00 - 17:30

Session Chairs: Jim Spangler, *Spangler Prototype*
 Kevin Parmenter, *Excelsys*

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Location: Room 102A

March 20, 2013 14:00 - 17:30

Session Chairs: Tianjun Fu, *John Deere*

Kent Wanner, *Phoenix International*

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Session T20: Grid-tied Power Converters

Location: Room 102B

March 20, 2013 14:00 - 17:30

Session Chairs: Hui Li, *Florida State University*
Yi Huang, *Ametek*

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<i>Wensong Yu, Virginia Polytechnic Institute and State University, United States</i>	
<i>Nathan Kees, Virginia Polytechnic Institute and State University, United States</i>	
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S.F. Carolino, *Universidade Federal do Rio Grande do Norte, Brazil*

Session T21: AC-DC Converters - Topologies

Location: Room 104C

March 20, 2013 14:00 - 17:30

Session Chairs: Dusty Becker, *Emerson*
Yu Du, *ABB*

Analysis and Design of an Interleaved Three-Phase Single-Stage PFC AC-DC Converter 1005
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Gerry Moschopoulos, *University of Western Ontario, Canada*

A High Efficiency Bridgeless Flyback PFC Converter for Adapter Application 1013
Xiliang Chen, *Zhejiang University, China*
Tianyang Jiang, *Zhejiang University, China*
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Junming Zhang, *Zhejiang University, China*

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Se-Kyo Chung, *Gyeongsang National University, Korea, South*
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Robert S. Balog, *Texas A&M University, United States*

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Behzad Mahdavihah, *University of Toronto, Canada*
Roberto Diccoco, *University of Toronto, Canada*
Aleksandar Prodic, *University of Toronto, Canada*

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N. Hensgens, *Universidad Politécnica de Madrid, Spain*
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J. Miniboeck, *m-pec Power Electronics Consulting, Austria*
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Tsorng-Juu Liang, *National Cheng Kung University, Taiwan*

Session T22: Multi-port DC/DC Converters

Location: Room 103A

March 21, 2013 8:30 - 11:20

Session Chairs: Kevin Parmenter, *Excelsys*
Ali Davoudi, *University of Texas, Arlington*

A Family of Cost-Efficient Integrated Single-Switch Three-Port Converters 1062
Gang Wen, *Huazhong University of Science and Technology, China*
Yu Chen, *Huazhong University of Science and Technology, China*
Yong Kang, *Huazhong University of Science and Technology, China*

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Kennichi Ito, *Toyota Central R&D Labs, Japan*
Shuji Tomura, *Toyota Central R&D Labs, Japan*
Takaji Umeno, *Toyota Central R&D Labs, Japan*

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 Yan Xing, *Nanjing University of Aeronautics and Astronautics, China*
 Yu Fang, *Southeast University, China*
 Xudong Ma, *Southeast University, China*

Investigation of Multiple-Input Converters Bi-Directional Power Flow Characteristics 1095
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 Alexis Kwasinski, *University of Texas at Austin, United States*

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 Behrooz Bahrani, *École Polytechnique Fédérale de Lausanne, Switzerland*
 Jaya Deepti Dasika, *Purdue University, United States*
 Maryam Saeedifard, *Purdue University, United States*
 Alireza Karimi, *École Polytechnique Fédérale de Lausanne, Switzerland*
 Alfred Rufer, *École Polytechnique Fédérale de Lausanne, Switzerland*

Session T23: Renewable Energy Applications

Location: Room 104A

March 21, 2013 8:30 - 11:20

Session Chairs: Morgan Kiani, *Texas Christian University*
 Juan Carlos Balda, *University of Arkansas*

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 Olorunfemi Ojo, *Tennessee Technological University, United States*
 Frank Okafor, *University of Lagos, Nigeria*

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 Mahshid Amirabadi, *Texas A&M University, United States*
 Hamid A. Toliyat, *Texas A&M University, United States*

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Sudhin Roy, *North Carolina State University, United States*
Subhashish Bhattacharya, *North Carolina State University, United States*

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F. Blaabjerg, *Aalborg University, Denmark*
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J. He, *University of Alberta, Canada*
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Parallel VSIs Wireless Control by Emulation of Output Current State Using Optimal Linear Controller 1139
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Christopher S. Edrington, *Florida State University, United States*
Jesse Leonard, *Florida State University, United States*

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Feng Ran, *Shanghai University, China*
Fang Zheng Peng, *Michigan State University, United States*

Session T24: Fault-Tolerance and Condition Monitoring for Inverters

Location: Room 103B

March 21, 2013 8:30 - 11:20

Session Chairs: Adel Nasiri, *University of Wisconsin-Dallas*
Seung-ki Sul, *Seoul National University*

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Peter Nussbaumer, *Vienna University of Technology, Austria*
Thomas M. Wolbank, *Vienna University of Technology, Austria*
Markus A. Vogelsberger, *Bombardier Transportation Austria GmbH, Austria*

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Seungdeog Choi, *University of Akron, United States*
Hamid Bahrami, *University of Akron, United States*
Bilal Akin, *University of Texas at Dallas, United States*

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Ahmed Abbas, <i>Alexandria University, Egypt</i>	
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Jorge O. Estima, <i>University of Coimbra, Portugal</i>	
Natália S. Gameiro, <i>University of Coimbra / Polytechnic Institute of Leiria, Portugal</i>	
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Faisal H. Khan, <i>University of Utah, United States</i>	

Session T25: Inverters & Converters

Location: Room 102A

March 21, 2013 8:30 - 11:20

Session Chairs: Cahit Gezgin, *International Rectifier*
Bilal Akin, *University of Texas at Dallas*

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Min Huang, <i>Aalborg University, Denmark</i>	
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Koon Hoo Teo, *Mitsubishi Electric Research Laboratories, Inc., United States*
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Jun-Ichi Itoh, *Nagaoka University of Technology, Japan*

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O. Lucía, *University of Zaragoza, Spain*
A. Mediano, *University of Zaragoza, Spain*
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Yi Deng, *Mitsubishi Electric Research Lab., Inc. / Georgia Institute of Technology, United States*
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Tsorng-Juu Liang, *National Cheng Kung University, Taiwan*
Wei-Yuan Ting, *Richtek Technology Corporation, Taiwan*
Lu-Chi Wei, *Richtek Technology Corporation, Taiwan*

Session T26: Gate Drive and Cascode Applications

Location: Room 102B

March 21, 2013 8:30 - 11:20

Session Chairs: Yu Du, *ABB*

Yaosuo Xue, *Siemens*

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Fred Wang, *University of Tennessee, United States*
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Leon M. Tolbert, *University of Tennessee, United States*
Benjamin J. Blalock, *University of Tennessee, United States*

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Sudip K. Mazumder, *University of Illinois, Chicago, United States*

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Zhe Zhang, *Technical University of Denmark, Denmark*
Michael A.E. Andersen, *Technical University of Denmark, Denmark*

Session T27: Multilevel and High Power Converters

Location: Room 104C

March 21, 2013 8:30 - 11:20

Session Chairs: Jin Wang, *Ohio State University*
Liming Liu, *Florida State University*

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Xi Lu, *Michigan State University, United States*
Yang Liu, *Michigan State University, United States*
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Hui Li, *Florida State University, United States*
Yaosuo Xue, *Siemens Corporate Research, Inc., United States*

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Taotao Xu, *Xi'an Jiaotong University, China*
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Liansong Xiong, *Xi'an Jiaotong University, China*

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Fainan Hassan, *Alstom Grid Research & Technology Centre, United Kingdom*

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Yalong Li, *University of Tennessee, United States*
Fred Wang, *University of Tennessee, United States*

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ManChung Wong, *University of Macau, Macau*

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Shuo Wang, *University of Texas at San Antonio, United States*
Russell Crosier, *University of Texas at San Antonio, United States*

Session T28: Digital Control of DC-DC Converters

Location: Room 104B

March 21, 2013 8:30 - 11:20

Session Chairs: Baiming Shao, *Mercedes Benz R&D North America*
Amir Rahimi, *International Rectifier*

Comparison of Linear and Non-Linear Digital Power Solutions 1339
Chun Cheung, *Intersil Corporation, United States*
Weihong Qiu, *Intersil Corporation, United States*
Jason Houston, *Intersil Corporation, United States*

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Ignacio Galiano Zurbriggen, *University of British Columbia, Canada*
Martin Ordonez, *University of British Columbia, Canada*
Matias Anun, *University of British Columbia, Canada*

Mixed-Signal CPM Controlled DC-DC Converter IC with Embedded Power Management for Digital Loads 1352
Amir Parayandeh, *Qualcomm Inc., United States*
Aleksandar Prodic, *University of Toronto, Canada*

Digital Control of a Bi-Directional DC-DC Converter for Automotive Applications 1360
Hrshikesh Nene, *Texas Instruments Inc., United States*

Ultra-Fast on-Chip Load-Current Adaptive Linear Regulator for Switch Mode Power Supply Load Transient Enhancement 1366
Yikai Wang, *University of Texas at Dallas, United States*
Dongsheng Ma, *University of Texas at Dallas, United States*

Adaptive Driving of Synchronous Rectifier for LLC Converter Without Signal Sensing 1370
Seiya Abe, *International Center for the Study of East Asian Development, Japan*
Toshiyuki Zaitzu, *Texas Instruments Japan Ltd., Japan*
Junichi Yamamoto, *Texas Instruments Japan Ltd., Japan*
Shinji Ueda, *Texas Instruments Japan Ltd., Japan*
Sihun Yang, *Kyushu University, Japan*
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Tamotsu Ninomiya, *Nagasaki University, Japan*

Digital Constant On-Time Controlled Multiple-Input Buck and Buck-Boost Converters 1376
Guanyu Ding, *Qualcomm CDMA Technologies, United States*
Alexis Kwasinski, *University of Texas at Austin, United States*

Session T29: DC-DC Resonant Converters

Location: Room 104B

March 21, 2013 14:00 - 17:30

Session Chairs: Berker Bilgin, *McMaster University*
Omer Onar, *Oak Ridge National Laboratory*

A New Generation of Buck-Boost Resonant AC-Link DC-DC Converters 1383
Hamidreza Keyhani, *Texas A&M University, United States*
Hamid A. Toliyat, *Texas A&M University, United States*

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Zhiyu Cao, *University of Paderborn, Germany*
Junbing Tao, *University of Paderborn, Germany*
Norbert Fröhleke, *University of Paderborn, Germany*
Joachim Böcker, *University of Paderborn, Germany*

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Wardah Inam, *Massachusetts Institute of Technology, United States*
Khurram K. Afridi, *Massachusetts Institute of Technology, United States*
David J. Perreault, *Massachusetts Institute of Technology, United States*

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Hien Nguyen, *University of Colorado Boulder, United States*
Dragan Maksimovic, *University of Colorado Boulder, United States*
Regan Zane, *Utah State University, United States*

η -p Pareto Optimization of Bidirectional Half-Cycle Discontinuous-Conduction-Mode Series-Resonant DC/DC Converter with Fixed Voltage Transfer Ratio 1413
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Gabriel Ortiz, *ETH Zürich, Switzerland*
Florian Krismer, *ETH Zürich, Switzerland*
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Johann W. Kolar, *ETH Zürich, Switzerland*

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Yan-Fei Liu, *Queen's University, Canada*
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Isaac Nam, *University of South Carolina, United States*
Roger Dougal, *University of South Carolina, United States*
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Francisco Canales, <i>ABB Switzerland Ltd, Switzerland</i>	
Silvia Lewdeni-Schmid, <i>ABB Switzerland Ltd, Switzerland</i>	
Chuanhong Zhao, <i>ABB Switzerland Ltd, Switzerland</i>	
Juergen K. Steinke, <i>ABB Switzerland Ltd, Switzerland</i>	

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Weiyi Feng, <i>Virginia Polytechnic Institute and State University, United States</i>	
Fred C. Lee, <i>Virginia Polytechnic Institute and State University, United States</i>	

Session T30: Power Systems and EMI

Location: Room 103B

March 21, 2013 14:00 - 17:30

Session Chairs: Mahesh Krishnamurthy, *IIT*
Jim Spangler, *Spangler Prototype*

A New Current Injection Method for Impedance Measurement Using Superposed Modulated Square Pulse	1452
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Fang Zhuo, <i>Xi'an Jiaotong University, China</i>	
Zhenghua Zhang, <i>Xi'an Jiaotong University, China</i>	
Hongtao Shi, <i>Xi'an Jiaotong University, China</i>	
Xianwen Bao, <i>Xi'an Jiaotong University, China</i>	
Zhen Yang, <i>Xi'an Jiaotong University, China</i>	

A Novel Dynamic Control Strategy on Resisting Impulsive Load for Uninterruptible Power Supply System	1457
Guofeng He, <i>Zhejiang University, China</i>	
Dehong Xu, <i>Zhejiang University, China</i>	
Wei Yu, <i>Zhejiang University, China</i>	
Min Chen, <i>Zhejiang University, China</i>	

A New Topology of Bridge-Type Non-Superconducting Fault Current Limiter	1465
Song Chen, <i>Northeastern University, United States</i>	
Peng Li, <i>Northeastern University, United States</i>	
Brad Lehman, <i>Northeastern University, United States</i>	
Roy Ball, <i>Mersen USA, United States</i>	
Jean-Francois de Palma, <i>Mersen USA, United States</i>	

A Low-Volume Power Management Module for Portable Applications Based on a Multi-Output Switched-Capacitor Circuit	1473
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Justin Blackman, <i>University of Toronto, Canada</i>	
Timothy McRae, <i>University of Toronto, Canada</i>	
Aleksandar Prodić, <i>University of Toronto, Canada</i>	

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Bin Wu, <i>Ryerson University, Canada</i>	
Navid Zargari, <i>Medium Voltage R&D Rockwell Automation, Canada</i>	
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Abusaleh M. Imtiaz, <i>University of Utah, United States</i>	
Faisal H. Khan, <i>University of Utah, United States</i>	
Suppression of Voltage Harmonics in Single-Phase Inverters Based on Multi-Voltage Control	1492
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Anyang Zhang, <i>Zhejiang University, China</i>	
Min Chen, <i>Zhejiang University, China</i>	
Dehong Xu, <i>Zhejiang University, China</i>	
Influence of High-Frequency Near-Field Coupling Between Magnetic Components on EMI Filter Design	1500
Ruxi Wang, <i>Virginia Polytechnic Institute and State University, United States</i>	
Handy Fortin Blanchette, <i>École de Technologie Supérieure - Montreal, Canada</i>	
Mingkai Mu, <i>Virginia Polytechnic Institute and State University, United States</i>	
Dushan Boroyevich, <i>Virginia Polytechnic Institute and State University, United States</i>	
Paolo Mattavelli, <i>Virginia Polytechnic Institute and State University, United States</i>	
A Novel Hybrid Low Cost Controller for Maintaining Low Input Current Harmonic over Wide Range of Load Conditions for Power Factor Corrected Boost AC to DC Converter	1508
Sunit Kumar Saxena, <i>Honeywell Technology Solutions, India</i>	
Deepak Bhimrao Mahajan, <i>Honeywell Technology Solutions, India</i>	
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March 21, 2013 14:00 - 17:30	
Session Chairs: Babak Fahimi, <i>University of Texas-Dallas</i>	
Fang Luo, <i>Virginia Tech</i>	
A Doubly-Fed Induction Machine and the Control in a Single-Phase Grid Connection	1514
Yongsu Han, <i>Seoul National University, Korea, South</i>	
Jung-Ik Ha, <i>Seoul National University, Korea, South</i>	
Control Architecture for a Doubly-Fed Induction Machine Propulsion Drive	1522
Arijit Banerjee, <i>Massachusetts Institute of Technology, United States</i>	
Michael S. Tomovich, <i>Massachusetts Institute of Technology, United States</i>	
Steven B. Leeb, <i>Massachusetts Institute of Technology, United States</i>	
James L. Kirtley, <i>Massachusetts Institute of Technology, United States</i>	
An Efficient Universal Controller for Switched-Reluctance Machines	1530
Tausif Husain, <i>University of Akron, United States</i>	
Ali Elrayah, <i>University of Akron, United States</i>	
Yilmaz Sozer, <i>University of Akron, United States</i>	
Iqbal Husain, <i>North Carolina State University, United States</i>	

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Ali Elrayyah, <i>University of Akron, United States</i>	
Yilmaz Sozer, <i>University of Akron, United States</i>	
Iqbal Husain, <i>North Carolina State University, United States</i>	
Power Enhancement of Dual Inverter for Open-End Permanent Magnet Synchronous Motor	1545
Yongjae Lee, <i>Seoul National University, Korea, South</i>	
Jung-Ik Ha, <i>Seoul National University, Korea, South</i>	
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Nicholas Clark, <i>Powerex, Inc., United States</i>	
A Study of Motor-End EMI Filter on Output Common-Mode Noise Suppression in DC-Fed Motor Drive System	1556
Jing Xue, <i>University of Tennessee, United States</i>	
Fred Wang, <i>University of Tennessee, United States</i>	
Wenjie Chen, <i>University of Tennessee, United States</i>	
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Tao Qi, <i>Rensselaer Polytechnic Institute, United States</i>	
Jian Sun, <i>Rensselaer Polytechnic Institute, United States</i>	
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Ahmed Sayed-Ahmed, <i>Rockwell Automation, United States</i>	
Russ Kerkman, <i>Rockwell Automation, United States</i>	
Brian Seibel, <i>Rockwell Automation, United States</i>	

Session T32: Industrial and Utility Interface

Location: Room 102B

March 21, 2013 14:00 - 17:30

Session Chairs: Bilal Akin, *University of Texas at Dallas*
Cahit Gezgin, *International Rectifier*

Design of Household Appliances for a DC-Based Nanogrid System: An Induction Heating Cooktop Study Case	1576
Oscar Lucia, <i>University of Zaragoza, Spain</i>	
Igor Cvetkovic, <i>Virginia Polytechnic Institute and State University, United States</i>	
Dushan Boroyevich, <i>Virginia Polytechnic Institute and State University, United States</i>	
Paolo Mattavelli, <i>Virginia Polytechnic Institute and State University, United States</i>	
Fred C. Lee, <i>Virginia Polytechnic Institute and State University, United States</i>	

Series Resonant Inverter with Active Snubber Circuit for Improved Efficiency Operation Applied to Domestic Induction Heating	1584
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O. Lucía, <i>University of Zaragoza, Spain</i>	
A. Mediano, <i>University of Zaragoza, Spain</i>	
J.M. Burdío, <i>University of Zaragoza, Spain</i>	

Design and Analysis of an Energy Recycling Electronic Load System	1590
Qian Guo, <i>Zhejiang University, China</i>	
Hao Ma, <i>Zhejiang University, China</i>	
Jing Li, <i>Zhejiang University, China</i>	
Longyu Chen, <i>Zhejiang University, China</i>	
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Power Density Design of SiC and GaN DC–DC Converters for 380 V DC Distribution System Based on Series-Parallel Circuit Topology	1601
Yusuke Hayashi, <i>NTT Facilities, Inc., Japan</i>	
Experimental Validation of a Parallel Hybrid Modular Multilevel Voltage Source Converter for HVDC Transmission	1607
Emmanuel Amankwah, <i>University of Nottingham, United Kingdom</i>	
Alan Watson, <i>University of Nottingham, United Kingdom</i>	
Ralph Feldman, <i>University of Nottingham, United Kingdom</i>	
Jon Clare, <i>University of Nottingham, United Kingdom</i>	
Pat Wheeler, <i>University of Nottingham, United Kingdom</i>	
Influence of Network Voltage Level, Converter Topology and Integration of Energy Storage on the Power Losses of STATCOM Devices	1615
Antti Virtanen, <i>Tampere University of Technology, Finland</i>	
Juha Jokipii, <i>Tampere University of Technology, Finland</i>	
Jenni Rekola, <i>Tampere University of Technology, Finland</i>	
Heikki Tuusa, <i>Tampere University of Technology, Finland</i>	
Performance Analysis of Conventional STATCOMs and STATCOMs with Energy Storage in Electric Arc Furnace Applications	1623
Antti Virtanen, <i>Tampere University of Technology, Finland</i>	
Heikki Tuusa, <i>Tampere University of Technology, Finland</i>	
Jarmo Aho, <i>Alstom Grid Research & Technology Centre, Finland</i>	
Droop Controller Design Methods for Isolated DC-DC Converter in DC Grid Battery Energy Storage Applications	1630
Yu Du, <i>ABB Corporate Research, United States</i>	
Alex Q. Huang, <i>North Carolina State University, United States</i>	
Xunwei Yu, <i>North Carolina State University, United States</i>	
Jun Li, <i>ABB Corporate Research, United States</i>	
Session T33: Magnetic Devices and Advanced Applications	
Location: Room 103A	
March 21, 2013 14:00 - 17:30	
Session Chairs: Matthew Wilkowski, <i>Enpirion</i>	
Stephen Carlsen, <i>Raytheon</i>	
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Golam R. Khan, <i>Dartmouth College, United States</i>	
Charles R. Sullivan, <i>Dartmouth College, United States</i>	

Inductor Geometries with Significantly Reduced Height	1644
Han Cui, <i>Virginia Polytechnic Institute and State University, United States</i>	
Khai D.T. Ngo, <i>Virginia Polytechnic Institute and State University, United States</i>	
Embedded Magnetic Power Transformer	1650
Jim Quilici, <i>Radial Electronics, United States</i>	
Development and Verification of Printed Circuit Board Toroidal Transformer Model	1654
Jens Pejtersen, <i>Technical University of Denmark, Denmark</i>	
Jakob Døllner Mønster, <i>Technical University of Denmark, Denmark</i>	
Arnold Knott, <i>Technical University of Denmark, Denmark</i>	
A Toroidal Power Inductor Using Radial-Anisotropy Thin-Film Magnetic Material Based on a Hybrid Fabrication Process	1660
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Daniel V. Harburg, <i>Dartmouth College, United States</i>	
Charles R. Sullivan, <i>Dartmouth College, United States</i>	
Impact of Planar Transformer Winding Capacitance on Si-Based and GaN-Based LLC Resonant Converter	1668
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Fred Wang, <i>University of Tennessee, United States</i>	
Leon M. Tolbert, <i>University of Tennessee, United States</i>	
Benjamin J. Blalock, <i>University of Tennessee, United States</i>	
Stephan Henning, <i>Auburn University, United States</i>	
Justin Moses, <i>Auburn University, United States</i>	
Robert Dean, <i>Auburn University, United States</i>	
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Kevin J. Hartnett, <i>University College Cork, Ireland</i>	
Brendan J. Lyons, <i>University College Cork, Ireland</i>	
John G. Hayes, <i>University College Cork, Ireland</i>	
Michael G. Egan, <i>University College Cork, Ireland</i>	
Marek S. Rylko, <i>DTW, Poland</i>	
Jerzy W. Masłoń, <i>DTW, Poland</i>	
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Jun Zhang, <i>National University of Ireland, Ireland</i>	
William G. Hurley, <i>National University of Ireland, Ireland</i>	
Werner H. Wolfle, <i>Convertec Ltd., Ireland</i>	
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High Current and High Frequency Planar Inductor Loss Measurement and Analysis	1689
Ken Toshiyuki, <i>Toyota Motor Corporation, Japan</i>	
Yuanbo Guo, <i>Toyota Research Institute of North America, United States</i>	
Koji Shiozaki, <i>Toyota Research Institute of North America, United States</i>	
Di Xu, <i>Virginia Polytechnic Institute and State University, United States</i>	
Khai Ngo, <i>Virginia Polytechnic Institute and State University, United States</i>	

Session T34: Modeling of Converters & Systems

Location: Room 104A

March 21, 2013 14:00 - 17:30

Session Chairs: Dusty Becker, *Emerson*
Chris Jones, *Emerson*

- Stability Analysis and Design of Stable DC Distribution Systems Through Positive Feed-Forward Control Using a Novel Passivity-Based Stability Criterion** 1693
Antonino Riccobono, *University of South Carolina, United States*
Enrico Santi, *University of South Carolina, United States*
- Simplified Small-Signal Stability Analysis for Optimized Power System Architecture** 1702
S. Vesti, *Universidad Politécnica de Madrid, Spain*
J.A. Oliver, *Universidad Politécnica de Madrid, Spain*
R. Prieto, *Universidad Politécnica de Madrid, Spain*
J.A. Cobos, *Universidad Politécnica de Madrid, Spain*
T. Suntio, *Tampere University of Technology, Finland*
- Small Signal Analysis of V^2 Control Using Current Mode Equivalent Circuit Model** 1709
Yingyi Yan, *Virginia Polytechnic Institute and State University, United States*
Fred C. Lee, *Virginia Polytechnic Institute and State University, United States*
Paolo Mattavelli, *Virginia Polytechnic Institute and State University, United States*
Shuilin Tian, *Virginia Polytechnic Institute and State University, United States*
- Small-Signal Analysis and Design of Constant Frequency V^2 Peak Control** 1717
Shuilin Tian, *Virginia Polytechnic Institute and State University, United States*
Fred C. Lee, *Virginia Polytechnic Institute and State University, United States*
Paolo Mattavelli, *Virginia Polytechnic Institute and State University, United States*
Yingyi Yan, *Virginia Polytechnic Institute and State University, United States*
- FPGA Based Real Time Electro-Thermal Modeling of Power Electronic Converters** 1725
Luis Herrera, *Ohio State University, United States*
Cong Li, *Ohio State University, United States*
Xiu Yao, *Ohio State University, United States*
Da Jiao, *Ohio State University, United States*
Jin Wang, *Ohio State University, United States*
- Small-Signal Analysis of the Asymmetrical Half-Bridge Converter with Two Transformers** 1730
M. Arias, *Universidad de Oviedo, Spain*
M. Fernández, *Universidad de Oviedo, Spain*
D.G. Lamar, *Universidad de Oviedo, Spain*
J. Sebastián, *Universidad de Oviedo, Spain*
- A New Large Signal Average Model for Variable Frequency Pulse-Width Modulators** 1738
Jason Houston, *Intersil Corporation, United States*
Weihong Qiu, *Intersil Corporation, United States*
Chun Cheung, *Intersil Corporation, United States*
- Small-Signal Analysis of DCM Flyback Converter in Frequency-Foldback Mode of Operation** 1746
Laszlo Huber, *Delta Products Corporation, United States*
Milan M. Jovanović, *Delta Products Corporation, United States*

State Space Modeling and Performance Analysis of a Multilevel Modular Switched-Capacitor Converter Using Pulse Dropping Switching Technique 1753
Mohammed Khorshed Alam, *University of Utah, United States*
Faisal H. Khan, *University of Utah, United States*

Session T35: Vehicular Electronics

Location: Room 104C

March 21, 2013 14:00 - 17:30

Session Chairs: Amin Hasanzadeh, *Florida State University*
Fariborz Musavi, *Delta-Q Technologies Corp*

An Isolated DC/DC Converter with Reduced Number of Switches and Voltage Stresses for Electric and Hybrid Electric Vehicles 1759
Xuan Zhang, *Ohio State University, United States*
Cong Li, *Ohio State University, United States*
Chengcheng Yao, *Ohio State University, United States*
Lixing Fu, *Ohio State University, United States*
Feng Guo, *Ohio State University, United States*
Jin Wang, *Ohio State University, United States*

High-Temperature SOI-Based Gate Driver IC for WBG Power Switches 1768
R.L. Greenwell, *University of Tennessee, United States*
B.M. McCue, *University of Tennessee, United States*
L.M. Tolbert, *University of Tennessee, United States*
B.J. Blalock, *University of Tennessee, United States*
S.K. Islam, *University of Tennessee, United States*

High Gain Soft-Switching Bidirectional DC-DC Converters for Eco-Friendly Vehicles 1776
Minho Kwon, *Seoul National University of Science and Technology, Korea, South*
Junsung Park, *Seoul National University of Science and Technology, Korea, South*
Sewan Choi, *Seoul National University of Science and Technology, Korea, South*

Surface Spiral Coil Design Methodologies for High Efficiency, High Power, Low Flux Density, Large Air-Gap Wireless Power Transfer Systems 1783
Seung-Hwan Lee, *University of Wisconsin-Madison, United States*
Robert D. Lorenz, *University of Wisconsin-Madison, United States*

A Reduced-Part Single Stage Direct AC/DC On-Board Charger for Automotive Applications 1791
Serkan Dusmez, *University of Maryland, United States*
Chen Chen, *University of Maryland, United States*
Alireza Khaligh, *University of Maryland, United States*

An Efficient Soft Switched DC-DC Converter for Electric Vehicles 1798
Hamid Daneshpajooh, *Queen's University, Canada*
Majid Pahlevaninezhad, *Queen's University, Canada*
Praveen Jain, *Queen's University, Canada*
Alireza Bakhshai, *Queen's University, Canada*

Control Strategies for a LLC Multi-Resonant DC-DC Converter in Battery Charging Applications 1804
Fariborz Musavi, *Delta-Q Technologies Corp., Canada*
Marian Craciun, *Delta-Q Technologies Corp., Canada*
Deepak Gautam, *Delta-Q Technologies Corp., Canada*
Murray Edington, *Delta-Q Technologies Corp., Canada*
Wilson Eberle, *University of British Columbia, Canada*
William G. Dunford, *University of British Columbia, Canada*

Optimized Magnetic Design for Inductive Power Transfer Coils 1812
R. Bosshard, *ETH Zürich, Switzerland*
J. Mühlethaler, *ETH Zürich, Switzerland*
J.W. Kolar, *ETH Zürich, Switzerland*
I. Stevanović, *ABB Switzerland Ltd., Switzerland*

A Semi-Bridgeless Boost Power Factor Corrected Converter with an Auxiliary Zero Voltage Switching Circuit for Electric Vehicle Battery Chargers 1820
Md. Muntasir Ul Alam, *University of British Columbia, Canada*
Wilson Eberle, *University of British Columbia, Canada*
Fariborz Musavi, *Delta-Q Technologies Corp., Canada*

Session D01: AC-DC Converters

Location: Grand Ballroom

March 21, 2013 11:30 - 14:00

Session Chairs: Gerry Moschopoulos, *Western University, Canada*
Srujan Kusumba, *GE*

A Novel Strategy for Three-Phase/Switch/Level (Vienna) Rectifier Under Severe Unbalanced Grids 1826
Ming Zhang, *Zhejiang University, China*
Bin Li, *Zhejiang University, China*
Long Huang, *Zhejiang University, China*
Wenxi Yao, *Zhejiang University, China*
Zhengyu Lu, *Zhejiang University, China*
Lijun Hang, *University of Tennessee, United States*
Leon M. Tolbert, *University of Tennessee, United States*

A New Single-Phase Single-Stage Multilevel PFC AC-DC Converter with Flying Capacitor 1833
Mehdi Narimani, *University of Western Ontario, Canada*
Gerry Moschopoulos, *University of Western Ontario, Canada*

A Novel Integrated Buck-Flyback PFC Converter with High Power Factor 1838
Xiaogao Xie, *Hangzhou Dianzi University, China*
Zhou Lan, *Hangzhou Dianzi University, China*
Hanjing Dong, *Hangzhou Dianzi University, China*
Chen Zhao, *Hangzhou Dianzi University, China*
Shirong Liu, *Hangzhou Dianzi University, China*

On the Use of Front-End Cascode Rectifiers Based on Normally-on SiC JFET and Si MOSFET	1844
A. Vazquez, <i>University of Oviedo, Spain</i>	
A. Rodriguez, <i>University of Oviedo, Spain</i>	
M. Fernandez, <i>University of Oviedo, Spain</i>	
M.M. Hernando, <i>University of Oviedo, Spain</i>	
J. Sebastian, <i>University of Oviedo, Spain</i>	
Comparative Analysis of Performance for Single-Phase AC-DC Converters Using FPGA for UPS Applications	1852
Raphael A. da Câmara, <i>Federal Rural University of Semiárido, Brazil</i>	
Paulo P. Praça, <i>Federal University of Ceará, Brazil</i>	
René P.T. Bascopé, <i>Federal University of Ceará, Brazil</i>	
Cicero M.T. Cruz, <i>Federal University of Ceará, Brazil</i>	
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Xiliang Chen, <i>Zhejiang University, China</i>	
Tianyang Jiang, <i>Zhejiang University, China</i>	
Siyang Zhao, <i>Zhejiang University, China</i>	
Hulong Zeng, <i>Zhejiang University, China</i>	
Junming Zhang, <i>Zhejiang University, China</i>	
A Two-Switch AC-DC Buck-Boost Quasi-Resonant Front-End Converter	1864
Dunisha Wijeratne, <i>University of Western Ontario, Canada</i>	
Gerry Moschopoulos, <i>University of Western Ontario, Canada</i>	
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Márcio S. Ortmann, <i>Federal University of Santa Catarina, Brazil</i>	
Wagner Hoffmann, <i>Federal University of Santa Catarina, Brazil</i>	
Samir A. Mussa, <i>Federal University of Santa Catarina, Brazil</i>	
Marcelo L. Heldwein, <i>Federal University of Santa Catarina, Brazil</i>	
A Study of Nonlinear Controllers for AC/DC Boost PFC Converters	1878
Majid Pahlevaninezhad, <i>Queen's University, Canada</i>	
Pritam Das, <i>Murata Power Solutions, Canada</i>	
Gerry Moschopoulos, <i>University of Western Ontario, Canada</i>	
Praveen Jain, <i>Queen's University, Canada</i>	
Switched-Capacitor Step-Down Rectifier for Low-Voltage Power Conversion	1884
Wei Li, <i>Massachusetts Institute of Technology, United States</i>	
David J. Perreault, <i>Massachusetts Institute of Technology, United States</i>	
Single-Phase and Three-Phase Non-Isolated Bidirectional DC-DC-AC Converters	1892
E.C. dos Santos Jr., <i>Indiana University-Purdue University Indianapolis, United States</i>	
M. Darabi, <i>Indiana University-Purdue University Indianapolis, United States</i>	

**Single-Stage Interleaved Active-Clamping Forward Converter
Employing Two Transformers** 1898

Yu-Kang Lo, *National Taiwan University of Science and Technology, Taiwan*
Huang-Jen Chiu, *National Taiwan University of Science and Technology, Taiwan*
Jing-Yuan Lin, *National Taiwan University of Science and Technology, Taiwan*
Chao-Fu Wang, *National Taiwan University of Science and Technology, Taiwan*
Chien-Yu Lin, *National Taiwan University of Science and Technology, Taiwan*
Bin Gu, *National Taiwan University of Science and Technology, Taiwan*

**An Improved Bridgeless SEPIC PFC Rectifier with Optimized Magnetic Utilization,
Minimized Circulating Losses, and Reduced Sensing Noise** 1906

Cong Zheng, *Virginia Polytechnic Institute and State University, United States*
Hongbo Ma, *Southwest Jiaotong University, China*
Bin Gu, *Virginia Polytechnic Institute and State University, United States*
Rui Chen, *Virginia Polytechnic Institute and State University, United States*
Eric Faraci, *Virginia Polytechnic Institute and State University, United States*
Wensong Yu, *Virginia Polytechnic Institute and State University, United States*
Jih-Sheng Lai, *Virginia Polytechnic Institute and State University, United States*
Hyun-Soo Koh, *Virginia Polytechnic Institute and State University, United States*

**Input Impedance and Current Feedforward Control for Leading-Lagging Phase
Admittance Cancellation in the AC-DC Boost Converter** 1912

Sung Min Park, *University of Connecticut, United States*
Sung-Yeul Park, *University of Connecticut, United States*

**Dual Active Bridge Based Battery Charger for Plug-in Hybrid Electric Vehicle with
Charging Current Containing Low Frequency Ripple** 1920

Lingxiao Xue, *Virginia Polytechnic Institute and State University, United States*
Daniel Diaz, *Universidad Politécnica de Madrid, Spain*
Zhiyu Shen, *Virginia Polytechnic Institute and State University, United States*
Fang Luo, *Virginia Polytechnic Institute and State University, United States*
Paolo Mattavelli, *Virginia Polytechnic Institute and State University, United States*
Dushan Boroyevich, *Virginia Polytechnic Institute and State University, United States*

Session D02: DC-DC Converters

Location: Grand Ballroom

March 21, 2013 11:30 - 14:00

Session Chairs: Amir Rahimi, *International Rectifier*
Zobair Roohani, *International Rectifier Co.*

**A New Fuel Cell Power Conditioning System with Extended Life Time and
Minimized DC-Bus Capacitor** 1926

Xiaohu Liu, *Florida State University, United States*
Zhan Wang, *Florida State University, United States*
Hui Li, *Florida State University, United States*

**Experimental Investigation and Loss Calculation for a Bi-Directional Isolated
DC/DC Converter Using Series Voltage Compensation** 1931

Satoshi Miyawaki, *Nagaoka University of Technology, Japan*
Jun-Ichi Itoh, *Nagaoka University of Technology, Japan*
Kazuki Iwaya, *TDK-Lambda Corporation, Japan*

A Dual-Channel Current Source Driver for Complementary Switches	1939
Darryl J. Tschirhart, <i>Queen's University, Canada</i>	
Praveen K. Jain, <i>Queen's University, Canada</i>	
Performance of Distributed DC Power System Using Quasi Z-Source Inverter Based DC/DC Converters	1946
Yam P. Siwakoti, <i>Macquarie University, Australia</i>	
Graham E. Town, <i>Macquarie University, Australia</i>	
Highly-Reliable Double-Switch Cell Equalizer Using Parallel-Resonant Inverter and Voltage Multiplier for Series-Connected Supercapacitors/Lithium-Ion Cells	1954
Masatoshi Uno, <i>Japan Aerospace Exploration Agency, Japan</i>	
Akio Kukita, <i>Japan Aerospace Exploration Agency, Japan</i>	
Integrated Low-Ripple Fast-Transient Switching Power Converter with Dynamic Current Compensation and Sensor-Free Quasi-SCB Hysteretic Control	1962
Yi Zhang, <i>University of Texas at Dallas, United States</i>	
Dongsheng Ma, <i>University of Texas at Dallas, United States</i>	
A High Step-Up Passive Absorption Circuit Used in Non-Isolated High Step-Up Converter	1966
Yihua Hu, <i>Zhejiang University, China</i>	
Yan Deng, <i>Zhejiang University, China</i>	
Jiangtao Long, <i>Zhejiang University, China</i>	
Xiaoxun Lu, <i>Zhejiang University, China</i>	
Xiangning He, <i>Zhejiang University, China</i>	
Bidirectional Dual-Active-Bridge DC-DC Converter with Triple-Phase-Shift Control	1972
H. Wen, <i>Masdar Institute of Science and Technology, U.A.E.</i>	
W. Xiao, <i>Masdar Institute of Science and Technology, U.A.E.</i>	
Supercapacitor Assisted LDO (SCALDO) Technique- an Extra Low Frequency Design Approach to High Efficiency DC-DC Converters and How It Compares with the Classical Switched Capacitor Converters	1979
Kosala Kankanmage, <i>University of Waikato, New Zealand</i>	
Nihal Kulatana, <i>University of Waikato, New Zealand</i>	
Application Specific Efficiency Improvement for an Industrial Point of Load Converter	1985
Hendrik Tech, <i>Friedrich-Alexander University of Erlangen-Nuremberg, Germany</i>	
Christian Oeder, <i>Friedrich-Alexander University of Erlangen-Nuremberg, Germany</i>	
Daniel Kuebrich, <i>Friedrich-Alexander University of Erlangen-Nuremberg, Germany</i>	
Thomas Duerbaum, <i>Friedrich-Alexander University of Erlangen-Nuremberg, Germany</i>	
A 6kW, 200kHz Boost Converter with Parallel-Connected SiC Bipolar Transistors	1991
Jacek Rabkowski, <i>KTH Royal Institute of Technology / Warsaw Univ. of Technology, Sweden / Poland</i>	
Dimosthenis Pefititsis, <i>KTH Royal Institute of Technology, Sweden</i>	
Mariusz Zdanowski, <i>Warsaw University of Technology, Poland</i>	
Hans-Peter Nee, <i>KTH Royal Institute of Technology, Sweden</i>	
A DC-DC Converter with Dual Flyback Converter Topology	1999
Farnaz Ghodousipour, <i>Western University, Canada</i>	
Navid Golbon, <i>Western University, Canada</i>	
Gerry Moschopoulos, <i>Western University, Canada</i>	

Resonant DC-DC Converter for High Efficiency Bidirectional Power Conversion	2005
Eun-Soo Kim, <i>Jeonju University, Korea, South</i>	
Seung-Min Lee, <i>Jeonju University, Korea, South</i>	
Jun-Hyoung Park, <i>Jeonju University, Korea, South</i>	
Young-Jae Noh, <i>Jeonju University, Korea, South</i>	
Han Xu, <i>Jeonju University, Korea, South</i>	
Young-Soo Kong, <i>Jeonju University, Korea, South</i>	
A Novel Soft Starting Strategy of an LLC Resonant DC/DC Converter for Plug-in Hybrid Electric Vehicles	2012
Wei Guo, <i>Kettering University, United States</i>	
Kevin Bai, <i>Kettering University, United States</i>	
Allan Taylor, <i>Kettering University, United States</i>	
Jeff Patterson, <i>Magna E-Car USA LP, United States</i>	
James Kane, <i>Magna E-Car USA LP, United States</i>	
Unified PWM Control to Minimize Conduction Losses Under ZVS in the Whole Operating Range of Dual Active Bridge Converters	2016
Jun Huang, <i>Xi'an Jiaotong University, China</i>	
Yue Wang, <i>Xi'an Jiaotong University, China</i>	
Yuan Gao, <i>Xi'an Jiaotong University, China</i>	
Wanjuan Lei, <i>Xi'an Jiaotong University, China</i>	
Yufei Li, <i>Xi'an Jiaotong University, China</i>	
Techniques for Reducing Parasitic Loss in Switched-Capacitor Based DC-DC Converter	2023
Avishek Biswas, <i>Indian Institute of Technology Kharagpur, India</i>	
Monodeep Kar, <i>Indian Institute of Technology Kharagpur, India</i>	
Pradip Mandal, <i>Indian Institute of Technology Kharagpur, India</i>	
Zero Voltage Switching Double-Wing Multilevel Modular Switched-Capacitor DC-DC Converter with Voltage Regulation	2029
Dong Cao, <i>Ford Motor Company, United States</i>	
Xi Lu, <i>Michigan State University, United States</i>	
Xianhao Yu, <i>Michigan State University, United States</i>	
Fang Z. Peng, <i>Michigan State University, United States</i>	
A Current Sensing Circuit with Bootstrap Effect for DC-DC Converters	2037
Yu Zhang, <i>Xidian University, China</i>	
Feng Zheng, <i>Xidian University, China</i>	
Peikang Wang, <i>Xidian University, China</i>	
Junfei Wang, <i>Xidian University, China</i>	
Dual-Input Soft-Switched DC-DC Converter with Isolated Current-Fed Half-Bridge and Voltage-Fed Full-Bridge for Fuel Cell or Photovoltaic Systems	2042
Zhe Zhang, <i>Technical University of Denmark, Denmark</i>	
Ole C. Thomsen, <i>Technical University of Denmark, Denmark</i>	
Michael A.E. Andersen, <i>Technical University of Denmark, Denmark</i>	
Open Loop Synchronous Rectifier Driver for LLC Resonant Converter	2048
Jing Wang, <i>University of Tennessee, United States</i>	
Bing Lu, <i>Texas Instruments Inc., United States</i>	

A Novel Open Loop Control Scheme for a Current-Driven Full-Bridge DC/DC Converter Used in Electric Vehicles	2052
Majid Pahlevaninezhad, <i>Queen's University, Canada</i>	
Alireza Bakhshai, <i>Queen's University, Canada</i>	
Praveen Jain, <i>Queen's University, Canada</i>	
High Voltage Gain DC-DC Converter for Micro and Nanosatellite Electric Thrusters	2057
A. Santoja, <i>Universidad Carlos III de Madrid, Spain</i>	
A. Barrado, <i>Universidad Carlos III de Madrid, Spain</i>	
C. Fernández, <i>Universidad Carlos III de Madrid, Spain</i>	
M. Sanz, <i>Universidad Carlos III de Madrid, Spain</i>	
C. Raga, <i>Universidad Carlos III de Madrid, Spain</i>	
A. Lázaro, <i>Universidad Carlos III de Madrid, Spain</i>	
Ripple Cancellation Technique Applied to a Synchronous Buck Converter to Achieve Very High Bandwidth and Very High Efficiency Envelope Amplifier	2064
D. Díaz, <i>Universidad Politécnica de Madrid, Spain</i>	
O. García, <i>Universidad Politécnica de Madrid, Spain</i>	
J.A. Oliver, <i>Universidad Politécnica de Madrid, Spain</i>	
P. Alou, <i>Universidad Politécnica de Madrid, Spain</i>	
J.A. Cobos, <i>Universidad Politécnica de Madrid, Spain</i>	
High Step-Up Converter with Passive Lossless Clamp Circuit and Switched-Capacitor: Analysis, Design, and Experimentation	2070
Liangzong He, <i>Xiamen University, China</i>	
Jiazhi Lei, <i>Huazhong University of Science and Technology, China</i>	
Matrix Transformer for LLC Resonant Converters	2078
Daocheng Huang, <i>Virginia Polytechnic Institute and State University, United States</i>	
Shu Ji, <i>Virginia Polytechnic Institute and State University, United States</i>	
Fred C. Lee, <i>Virginia Polytechnic Institute and State University, United States</i>	
A Comparison of Isolated DC-DC Converters for Microinverter Applications	2084
Luciano Andres Garcia Rodriguez, <i>University of Arkansas, United States</i>	
Juan Carlos Balda, <i>University of Arkansas, United States</i>	
Analysis and Control of Phase-Shifted Series Resonant Converter Operating in Discontinuous Mode	2092
Yash Veer Singh, <i>GE Global Research, India</i>	
Kanakasabai Viswanathan, <i>GE Global Research, India</i>	
Rajendra Naik, <i>GE Global Research, India</i>	
Juan A. Sabate, <i>GE Global Research, United States</i>	
Rixin Lai, <i>GE Global Research, United States</i>	
Design of Integrated POL DC-DC Converters Based on Two-Stage Architectures	2098
Mohamed Saad, <i>Aswan University, Egypt</i>	
Ahmed Shawky, <i>Aswan University, Egypt</i>	
Mohamed Orabi, <i>Aswan University, Egypt</i>	
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Shanxu Duan, <i>Huazhong University of Science and Technology, China</i>	
Changsong Chen, <i>Huazhong University of Science and Technology, China</i>	
Xi Chen, <i>Huazhong University of Science and Technology, China</i>	
Jianxing Zhang, <i>XuJi Power Co., Ltd, China</i>	

Digital Voltage Feed-Forward Control for Isolated DC/DC Converters 2112
Sean Xu, *Texas Instruments Inc., United States*
Zhong Ye, *Texas Instruments Inc., United States*

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L. Fässler, *ETH Zürich, Switzerland*
J.W. Kolar, *ETH Zürich, Switzerland*
O. Apeldoorn, *ABB Switzerland AG, Switzerland*

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A.A. Aboushady, *University of Strathclyde, United Kingdom*
S.J. Finney, *University of Strathclyde, United Kingdom*
B.W. Williams, *University of Strathclyde, United Kingdom*
K.H. Ahmed, *University of Aberdeen, United Kingdom*

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Emil Auadisian, *University of Central Florida, United States*
John Shen, *University of Central Florida, United States*
Issa Batarseh, *University of Central Florida, United States*

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Radhika Ambatipudi, *Mid Sweden University, Sweden*
Hari Babu Kotte, *Mid Sweden University, Sweden*
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Xiliang Chen, *Zhejiang University, China*
Junming Zhang, *Zhejiang University, China*
Yousheng Wang, *Zhejiang University, China*

Session D03: Power Electronics for Utility Interface

Location: Grand Ballroom

March 21, 2013 11:30 - 14:00

Session Chairs: Jin Wang, *Ohio State University*

Liming Liu, *Florida State University*

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Mohsen Vatani, *Norwegian University of Science and Technology, Norway*
Morten Hovd, *Norwegian University of Science and Technology, Norway*
Marta Molinas, *Norwegian University of Science and Technology, Norway*

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Danillo B. Rodrigues, <i>Universidade Federal de Uberlândia, Brazil</i>	
Admarço V. Costa, <i>Universidade Federal de Uberlândia, Brazil</i>	
Luiz C. de Freitas, <i>Universidade Federal de Uberlândia, Brazil</i>	
Ernane A.A. Coelho, <i>Universidade Federal de Uberlândia, Brazil</i>	
Valdeir J. Farias, <i>Universidade Federal de Uberlândia, Brazil</i>	
Luiz C.G. Freitas, <i>Universidade Federal de Uberlândia, Brazil</i>	
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S.C. Costa Ferreira, <i>Federal University of Itajubá, Brazil</i>	
Carlos H. da Silva, <i>Federal University of Itajubá, Brazil</i>	
L.E. Borges Da Silva, <i>Federal University of Itajubá, Brazil</i>	
G. Lambert-Torres, <i>Federal University of Itajubá, Brazil</i>	
L.G. Fernandez Silva, <i>CPFL Energia, Brazil</i>	
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Tzung-Lin Lee, <i>National Sun Yat-Sen University, Taiwan</i>	
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Yilmaz Sozer, <i>University of Akron, United States</i>	
Iqbal Husain, <i>North Carolina State University, United States</i>	
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Sung-Yeul Park, <i>University of Connecticut, United States</i>	
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Leonard White, <i>North Carolina State University, United States</i>	
Subhashish Bhattacharya, <i>North Carolina State University, United States</i>	
Chris Widener, <i>Florida State University, United States</i>	
Matthew Bosworth, <i>Florida State University, United States</i>	
Oleg Vodyakho, <i>Florida State University, United States</i>	
Mischa Steurer, <i>Florida State University, United States</i>	
Dominik Neumayr, <i>Florida State University, United States</i>	
Chris Edrington, <i>Florida State University, United States</i>	
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Dibyendu Rana, *Texas A&M University, United States*
Prasad N. Enjeti, *Texas A&M University, United States*

Digital Control of Dual Output Interleaved PFC Using Single Input Current Sense 2225
Shamim Choudhury, *Texas Instruments Inc., United States*
Bilal Akin, *University of Texas at Dallas, United States*
Manish Bhardwaj, *Texas Instruments Inc., United States*
Zhen Yu, *Texas Instruments Inc., United States*

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Kyoung-Jun Lee, *Pusan National University, Korea, South*
Dongsul Shin, *Pusan National University, Korea, South*
Hee-Je Kim, *Pusan National University, Korea, South*
Jong-Pil Lee, *Korea Electrotechnology Research Institute, Korea, South*
Tae-Jin Kim, *Korea Electrotechnology Research Institute, Korea, South*
Dong-Wook Yoo, *Korea Electrotechnology Research Institute, Korea, South*

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Hee-Je Kim, *Pusan National University, Korea, South*
Jong-Pil Lee, *Korea Electrotechnology Research Institute, Korea, South*
Tae-Jin Kim, *Korea Electrotechnology Research Institute, Korea, South*
Dong-Wook Yoo, *Korea Electrotechnology Research Institute, Korea, South*

Session D04: Motor Drives & Inverters

Location: Grand Ballroom

March 21, 2013 11:30 - 14:00

Session Chairs: Babak Fahimi, *University of Texas-Dallas*
Mahesh Krishnamurthy, *IIT*

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Juhamatti Korhonen, *Lappeenranta University of Technology, Finland*
Arto Sankala, *Lappeenranta University of Technology, Finland*
Juha-Pekka Ström, *Lappeenranta University of Technology, Finland*
Julius Luukko, *Lappeenranta University of Technology, Finland*
Pertti Silventoinen, *Lappeenranta University of Technology, Finland*
Risto Komulainen, *Vacon Plc., Finland*
Hannu Sarén, *Vacon Plc., Finland*
Nicklas Södö, *Vacon Plc., Finland*
Dan Isaksson, *Vacon Inc., United States*

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Graham E. Town, *Macquarie University, Australia*

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Kyo-Beum Lee, <i>Ajou University, Korea, South</i>	
Mengqiu Li, <i>Hunan University, China</i>	
Joong-Ho Song, <i>Seoul National University of Science and Technology, Korea, South</i>	
Youngil Lee, <i>Seoul National University of Science and Technology, Korea, South</i>	
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Hojoon Shin, <i>Seoul National University, Korea, South</i>	
Jung-Ik Ha, <i>Seoul National University, Korea, South</i>	
Bo-Hyung Cho, <i>Seoul National University, Korea, South</i>	
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Loh Poh Chiang, <i>Nanyang Technological University, Singapore</i>	
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L.-C. Lin, <i>National Chung Cheng University, Taiwan</i>	
C.-H. Chang, <i>National Chung Cheng University, Taiwan</i>	
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Xi Lu, <i>Michigan State University, United States</i>	
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Ana V. Stankovic, <i>Cleveland State University, United States</i>	
Yaroslav Rutkovskiy, <i>Cleveland State University, United States</i>	

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Liuchen Chang, <i>University of New Brunswick, Canada</i>	
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Xiaohu Zhang, <i>University of Tennessee, United States</i>	
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Jing Wang, <i>University of Tennessee, United States</i>	
Lijun Hang, <i>University of Tennessee, United States</i>	
Keman Lin, <i>University of Tennessee, United States</i>	
Leon M. Tolbert, <i>University of Tennessee, United States</i>	
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Kevin Tomsovic, <i>University of Tennessee, United States</i>	
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A. Lazaro, <i>Universidad Carlos III de Madrid, Spain</i>	
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I. Quesada, <i>Universidad Carlos III de Madrid, Spain</i>	
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A. Barrado, <i>Universidad Carlos III de Madrid, Spain</i>	
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Haitham Abu-Rub, <i>Texas A&M University at Qatar, Qatar</i>	
M.S. Saad, <i>Cairo University, Egypt</i>	
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Zedong Zheng, *Tsinghua University, China*
Kui Wang, *Tsinghua University, China*
Chunyang Gu, *Tsinghua University, China*
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Sandro Calligaro, *University of Udine, Italy*
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Kapil Jha, *Indian Institute of Technology Kanpur, India*
Santanu Mishra, *Indian Institute of Technology Kanpur, India*

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Yufei Zhou, *Nanjing University of Aeronautics and Astronautics, China*
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Wenxin Huang, *Nanjing University of Aeronautics and Astronautics, China*
Ping Zhao, *Nanjing University of Aeronautics and Astronautics, China*

Session D05: Devices & Components

Location: Grand Ballroom

March 21, 2013 11:30 - 14:00

Session Chairs: Ernie Parker, *Crane Aerospace & Electronics*
Chuck Mullett, *Onsemi*

Elliptic Flat-Type Inductor for Low-Cost Flexible Active Surface Implementations of Domestic Induction Heating Appliances 2380
C. Carretero, *University of Zaragoza, Spain*
J. Acero, *University of Zaragoza, Spain*
R. Alonso, *University of Zaragoza, Spain*
I. Lope, *University of Zaragoza, Spain*
J.M. Burdío, *University of Zaragoza, Spain*

Near-Zero Gate Bouncing in High-Frequency Converters with Shield-Plate FETs 2386
Jaume Roig, *ON Semiconductor, Belgium*
Hal Massie, *ON Semiconductor, Belgium*
Guillermo Agullo, *ON Semiconductor, Belgium*
Chin-Foong Tong, *ON Semiconductor, Belgium*
Samir Mouhoubi, *ON Semiconductor, Belgium*
Filip Bauwens, *ON Semiconductor, Belgium*

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J. Acero, *University of Zaragoza, Spain*
C.R. Sullivan, *Dartmouth College, United States*

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John F. Donlon, <i>Powerex, Inc., United States</i>	
Marco Honsberg, <i>Mitsubishi Electric Europe B.V., Germany</i>	
Fumitaka Tametani, <i>Mitsubishi Electric Corporation – Power Device Works, Japan</i>	
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C. Carretero, <i>University of Zaragoza, Spain</i>	
J. Acero, <i>University of Zaragoza, Spain</i>	
J.M. Burdío, <i>University of Zaragoza, Spain</i>	
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Kamal El Boubkari, <i>University of Bordeaux, France</i>	
Stéphane Azzopardi, <i>University of Bordeaux, France</i>	
Loic Théolier, <i>University of Bordeaux, France</i>	
Raphael Roder, <i>University of Bordeaux, France</i>	
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Session D06: System Integration II

Location: Grand Ballroom

March 21, 2013 11:30 - 14:00

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Robert Balog, *Texas A&M*

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Location: Grand Ballroom

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Session Chairs: Ali Davoudi, *University of Texas, Arlington*
Tianjun Fu, *John Deere*

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Session D08: Renewable Energy Systems

Location: Grand Ballroom

March 21, 2013 11:30 - 14:00

Session Chairs: Morgan Kiani, *Texas Christian University*
Adel Nasiri, *University of Wisconsin-Dallas*

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Location: Grand Ballroom

March 21, 2013 11:30 - 14:00

Session Chairs: Alireza Khaligh, *University of Maryland*
 Wei Qiao, *University of Nebraska"CLincoln*

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Location: Grand Ballroom

March 21, 2013 11:30 - 14:00

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Jim Spangler, *Spangler Prototype*

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