

PowerAmerica Guide to APEC 2018

	Time	Room	Title and Presenter
SUN. 3/4	9:30 a.m.– 1 p.m.	214 CD	<i>P.E. Seminar: High-Efficiency Single-Phase Inverter Design – VT-FEEC Approach for Google Little Box Challenge</i> Jason Lai, Virginia Tech
	2:30p.m.– 6 p.m.	206	<i>P.E. Seminar: Power Semiconductors for Traction Inverters in Vehicles: from Discrettes to Power Modules, from Silicon to Wide Band Gap Devices</i> Andre Christmann and David Levett, Infineon
MON. 3/5	8:30 a.m.– 12p.m.	217 BC	<i>P.E. Seminar: Gate Driver Design for IGBT and SiC Based Power Devices and Modules</i> David Levett, Infineon
	8:30 a.m.– 12p.m.	217 CD	<i>P.E. Seminar: Current Mode Control Modeling- 3 Decades of Progress</i> Christopher Basso, ON Semiconductor
	8:30a.m.– 12 p.m.	217D	<i>P.E. Seminar: Small-Signal Stability and Subsystem Interactions in Distributed Power Systems with Multiple Converters (II): 3-Phase AC Systems</i> Rolando Burgos, Virginia Tech
	2:30– 3 p.m.	Plenary	<i>Moving from Si to SiC from the End User’s Perspective</i> Muhammad Nawaz, ABB
	4– 4:30p.m.	Plenary	<i>3D Power Packaging made Real with Embedded Component and Substrate Technologies</i> P. Markondeya Raj, Georgia Tech
	4:30– 5 p.m.	Plenary	<i>Does Power Efficiency Improve with Consolidation in the Semiconductor Industry?</i> Hans Stork, ON Semiconductor
TUE. 3/6	8:30– 11:55 a.m.	206	<i>Industry Session: Latest Advancements in Device and Package Technology for High Power, High Frequency Switching Device</i> Multiple: Navitas, Infineon, United Silicon Carbide (USCI), GeneSiC, Microsemi
	8:30 a.m.– 12 p.m.	217A	<i>Technical Session: Power Devices Modeling</i> Chair: Jin Wang, the Ohio State University
	8:30 a.m.– 12 p.m.	214B	<i>Technical Session: Hybrid DC-DC Converters</i> Chair: Cahit Gezgin, Infineon
	1:30– 2 p.m.	214B	<i>Exhibitor Session: The Path to Predictable, High-Volume, High-Yield Manufacturing of SiC Devices</i> Andy Wilson, X-FAB Texas and Sujit Banerjee, Monolith
	1:30– 2 p.m.	217D	<i>Exhibitor Session: GaNFast to Higher Efficiency</i> Dan Kinzer, Navitas
	2:15– 2:45 p.m.	214C	<i>Exhibitor Session: Reference Designs Kick Start Reliable High-voltage GaN Application Development</i> Philip Zuk, Transphorm
	3– 3:30 p.m.	217C	<i>Exhibitor Session: New Gate-Driver IC with Excellent Ground-Shift Robustness</i> Hubert Baierl, Infineon
	5– 6:30 p.m.	Rap Session	<i>Gate Drive Isolation Technologies: optical, Magnetic or Capacitive Coupling?</i> Moderator: Aung Tu, Infineon, Laszlo Balogh, ON Semiconductor and Wolfgang Frank, Infineon
	5– 6:30 p.m.	Rap Session	<i>GaN vs. SiC vs. Si for Next Generation Power Devices</i> Speakers: John Palmour, Wolfspeed/Cree and Gerald DeBoy, Infineon
	WED. 3/7	8:30 a.m.– 10:10 a.m.	214A
8:30 a.m.– 10:10 a.m.		217C	<i>Technical Session, Charging and Energy Storage Topics: Extreme Fast Charging Station Architecture for Electric Vehicles with Partial Power Processing</i> Subhashish Bhattacharya, N.C. State
12– 12:30 p.m.		217B	<i>Exhibitor Seminar: USCI Gen3 Cascode and Diode Products</i> Anup Bhalla, United Silicon Carbide

Time	Room	Title and Presenter
2- 5:30 p.m.	214A	Technical Session: Single-Phase AC-DC Converters Speaker: Leila Parsa , Rensselaer Polytechnic Institute
2- 5:25 p.m.	206	PowerAmerica Industry Session: Enabling High-Volume Wide Bandgap Semiconductor Manufacturing and Applications Chair: Jim LeMunyon , PowerAmerica Speakers: Luis Arnedo , UTRC, <i>Challenges and Opportunities of WBG Devices in Industry</i> Marko Jaksik , General Motors, <i>Wide Bandgap Application Opportunities in Automotive Power Conversion</i> Tom Byrd , Lockheed Martin, <i>Wide Bandgap Power Devices - GaN and SiC at Lockheed Martin</i> Avi Kashyap , Microsemi, <i>High Performance of SiC Power Devices for Vehicle Electrification</i> Sung Joon Kim , Global Power, <i>SiC-Based Modules and Subsystems for Industrial Applications</i> Stephen Bayne , Texas Tech, <i>Evaluation of SiC Power Devices for Power Electronics Applications</i> Jim LeMunyon , PowerAmerica, <i>Accelerating the Adoption of SiC and GaN Technology</i>
2- 5:25 p.m.	213	Industry Session: Motor Drives, Inverters and Modules Chair: David Levett , Infineon Speakers: Peter Friedrichs and David Levett , Infineon and Nitesh Satheesh , AgileSwitch
2- 5:30 p.m.	214A	Technical Session: Single-Phase AC-DC Converters Speaker: Leila Parsa , Rensselaer Polytechnic Institute
2- 5:30 p.m.	214D	Technical Session: GaN Device Opportunities and Challenges Chair: Tim McDonald , Infineon; <i>High Precision Gate Signal Timing Control Based Active Voltage Balancing Scheme for Series-Connected Fast Switching Field-Effect Transistors</i> Fred Wang , University of Tennessee-Knoxville
2- 5:30 p.m.	217A	Power Converter Modeling & Control Chair: Liming Liu , ABB; <i>Modeling Resonant Converters in a Rotating, Polar Coordinate</i> Presenter: Fred Lee , Virginia Tech
4- 4:30 p.m.	22	Analysis of the dv/dt Transient of Enhancement-Mode GaN FETs Fred Wang , University of Tennessee-Knoxville
5- 5:30 p.m.	25	High Frequency Transformer Design for Modular Power Conversion from Medium Voltage AC to 400V DC Qiang Li and Fred Lee , Virginia Tech

8:30 a.m.- 11:20 a.m.	214C	Lecture Session: Power Module Integration & Prognostics Chairs: Liming Liu and Zach Pan , ABB Presenters: Douglas Hopkins , NC State, <i>Performance Optimization of a 1.2kV SiC High Density Half Bridge Power Module in 3D Package and 6.0kV, 100A, 175kHz Super Cascode Power Module for Medium Voltage, High Power Applications</i>
8:30 a.m.- 11:20 a.m.	214B	Lecture Session: Switched And Synchronous Reluctance Motor Drives Yilmaz Sozer , University of Akron: <i>Acoustic Noise Mitigation of Switched Reluctance Machines with Windows in Both Stator and Rotor Poles; Design of an Axial-Flux Switch Reluctance Motor for a Novel Integrated Motor-Compressor System; and Torque Ripple Minimization in SRMs at Medium and High Speeds Using a Multi-Stator Windings with a Novel Power Converter</i>
8:30 a.m.- 11:20 a.m.	214A	Lecture Session: DC-DC Converter Applications: Modeling and Control of Sigma Converter for 48V Voltage Regulator Application Fred Lee, Qiang Li ; Virginia Tech
8:30 a.m.- 11:20 a.m.	217B	Lecture Session: Renewable Energy Topics: A Passivity-Based Decentralized Control Strategy for Current-Controlled Inverters in AC Microgrids Srdjn Lukic , NC State
2 p.m.- 5:30 p.m.	214D	Lecture Session: Opportunities and Challenges of SiC & Si Devices Chair: Douglas Hopkins , N.C. State
2 p.m.- 5:30 p.m.	217A	Lecture Session: Magnetics Modeling Design & Applications Chairs: Rolando Burgos , Virginia Tech and Sandeep Bala , ABB
2 p.m.- 5:30 p.m.	217C	Lecture Session: Renewable Energy Converter Topologies Chair: Jin Wang , the Ohio State University

*This agenda is subject to change, please refer to APEC's website for updates.

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#1442



#701



#1629



#1341



#601



#947



#946



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