



POWERAMERICA

Next Generation Power
Electronics Manufacturing
Innovation Institute

2024 Annual Meeting
March 12 – March 15, 2024
Hunt Library, NC State University
1070 Partners Way, Raleigh, NC 27606
All Times are Eastern Standard (New York) Time



Event Sponsor

Tuesday Mar 12, 2024	
1:00 PM	Introduction to Tutorials Victor Veliadis, PowerAmerica's Executive Director and CTO
1:05 – 3:05 PM	WBG Tutorial - Session I Don Gajewski, Wolfspeed: SiC Reliability Aivars Lelis, Army Research Laboratory: Threshold Voltage Instability in SiC MOSFETs
3:05 PM	Networking Break - Sponsored by CVD Equipment
3:15 - 4:15 PM	WBG Tutorial - Session II Kevin Bai, University of Tennessee: High Power GaN in Transportation Electrification: Chargers, Propulsion Inverters and SSCB
4:15 - 5:15 PM	Membership Advisory Committee Meeting (<i>Members only</i>)
5:30 – 7:00 PM	Networking Reception - Hunt Library
Wednesday Mar 13, 2024	
8:00 - 8:30 AM	Networking Breakfast - Sponsored by Global Foundries
8:30 - 8:40 AM	Welcoming Remarks Victor Veliadis, PowerAmerica's Executive Director and CTO
8:40 - 9:30 AM	Keynote: Rajesh Nair, Global Foundries - "Foundry Power Management Innovations – Technology and Business Considerations"
9:30 - 10:00 AM	MIP #6 - Yuhao Zhang, Virginia Tech, CPES: "Evaluation of High-Frequency, Soft-Switching Losses of WBG Power Devices"
10:00 - 10:30 AM	MIP #6 - Wensong Yu, NC State: "Demonstration of a 200 kW SiC Inverter with Soft-Switching dv/dt Filter and for Motor Drives"
10:30 - 10:45 AM	Networking Break - Sponsored by CVD Equipment

10:45 - 11:15 AM	MIP #6 - Yue Zhao, University of Arkansas: "Design and Demonstration of a Current Sharing Strategy for Paralleling High Current Silicon Carbide Modules"
11:15 - 11:45 AM	MIP #6 - Subhashish Bhattacharya, NC State: "A 650V GaN-based Three-Level ANPC Inverter for Electric Vehicle Traction"
11:45-11:55 AM	Event Sponsor Presentation- AEHR Test Systems, Gayn Erickson
11:55 - 1:00 PM	Networking Lunch - Sponsored by Global Foundries
1:15 - 2:00 PM	Market Update - Callum Middleton, OMDIA
2:00 - 3:00 PM	SiC Panel Discussion - US SiC Chip Manufacturing: Featuring: Kevin Speer, Microchip Technology. / GP Gopalakrishnan, Wolfspeed / Andy Wilson, Qorvo
3:00 PM	Networking Break - Sponsored by CVD Equipment
3:15 - 5:15 PM	Industry Session Member Presentations - Group I *
5:30 – 7:30 PM	Evening Reception (Heavy Hors-D'oeuvres) - Sponsored by Heraeus Dorothy and Roy Park Alumni Center, 2450 Alumni Dr, Raleigh, NC 27606
Thursday Mar 14, 2024	
8:00 - 8:30 AM	Networking Breakfast - Sponsored by Global Foundries
8:30 - 9:30 AM	Keynote - Emmanuel Sabonnadière, SOITEC: "The SmartSiC™ and all the advancements made on this substrate"
9:30 - 10:00 AM	New Member Introductions Session I: <ul style="list-style-type: none"> ● Alithia Power - Cris Ugolini, CEO and Co-Founder ● Alliance MOCVD - Sara Cloud, Co-Founder and CFO ● Alpha & Omega Semiconductor - David Sheridan, VP WBG Products
10:00 - 10:30 AM	MIP #6 -Malachi Hornbuckle, Stanford University: "Evaluation of High-Frequency, Soft-Switching Losses of WBG Power Devices"
10:30 AM	Networking Break - Sponsored by CVD Equipment
10:45 - 11:45 AM	New Member Introductions Session II: <ul style="list-style-type: none"> ● Apex Microtechnology - Greg Brennan, CEO ● Carbice - Craig Green, CTO ● Crystal Sonic - Arno Merkle, CEO and CO-Founder ● Hyperion Materials - Anshul Singh, R&D Director ● Morgan State Univ. - Albert Sweets, Director, External Research Partnerships ● Polar Semiconductor - Tim Maloney, Senior Director
11:45 - 1:00 PM	Networking Lunch - Sponsored by Global Foundries
1:15 - 1:45 PM	Dr. John Muth, CLAWS Director: An overview of the "Microelectronics Commons Commercial Leap Ahead" hub for Wide bandgap Semiconductors (CLAWS)
1:45 - 2:45 PM	Panel Discussion: GaN Chip Production in USA

	Tim McDonald, Infineon / Llew Vaughan-Edmunds, Navitas / Rajesh Nair - Global Foundries / Ross Miller, Skywater Technology / Tim Maloney, Polar Semiconductor
2:45 - 3:00 PM	Networking Break - Sponsored by CVD Equipment
3:00 - 3:30 PM	New Member Introductions Session III: <ul style="list-style-type: none"> ● Trane Technologies - Deep Gupta, Director, Electronic Systems ● Renesas - Dilip Risbud, Director WBG Design and Development ● Univ. of South Carolina - Adel Nasiri, Distinguished Prof.
3:30 - 5:15 PM	Industry Session Member Presentations - Group II *
	Dinner on your own

Friday Mar 15, 2024	
8:00 - 8:30 AM	Networking Breakfast - Sponsored by Global Foundries
8:30 - 9:15 AM	Keynote - Dr. Dev Shenoy, Principal Director for Microelectronics, Office of the Assistant Secretary of Defense for Critical Technologies - “DoD Microelectronics Priorities and Plans”
9:15 - 10:30 AM	DOE Power Electronics Roadmap Feedback - Session I <ul style="list-style-type: none"> ● "Wide Bandgap Power Electronics" GaN, SiC, GaO2 and Diamond ● Focus on Application Areas: grid, transportation, data infrastructure, consumer electronics
10:30 AM	Networking Break - Sponsored by CVD Equipment
10:45 - 11:45 AM	DOE Power Electronics Roadmap Feedback - Session II <ul style="list-style-type: none"> ● Materials and Manufacturing ● Semiconductor Technical Development ● Reliability and Packaging
11:45 - 1:00 PM	Networking Lunch - Sponsored by Global Foundries
1:15 PM	Adjourn

Industry Session Presenters:

- ABB - Pietro Cairoli
- AEHR Test Systems - Gayn Erickson
- Applied Materials - Shiva Rai
- Alpha & Omega Semiconductor - David Sheridan
- BAE Systems Inc. - Nicholas Lemberg
- BorgWarner - Lathom Louco
- Coherent - Andy Souzis
- CoolCAD - Akin Akturk
- CVD Equipment - Jeff Brogan
- Entegris
- Galaxy Semiconductor - Wes Smith
- GE Aerospace - Henry Chen

- Heraeus - David Malanga
- Hesse Mechatronics - Michael Mckeown
- Ideal Power - Mudit Khanna
- Infineon - Tim McDonald
- Lockheed Martin - Tom Byrd
- Marel Power Solutions - Amrit Vivekanand
- Mersen - Philippe Roussel
- Navitas Semiconductor
- Onsemi
- Oxford Instruments - Bas Derksema
- Pureon - Ravi Bollina
- RCT Systems - Adam Kelinsky
- Semikron-Danfoss - Henry Chen
- Signatone - (PA staff will present)
- Soitec
- Syndem - Qing-Chang Zhong
- Transphorm - Phil Zuck
- Vertiv - Lorin Williams
- VW - (PA staff will present)
- Wolfspeed - Tom Barbieri