



PowerAmerica 2020 Summer Workshop

Meeting link: <https://live.remco.co/e/poweramerica-2020-virtual-wbg-su>

Meeting help desk: 706-247-3971

Tuesday, August 4, 2020 (all times EDT)

10:45 AM

Attendees may begin logging into the meeting.

11:00 AM

Welcome, review Remo video conferencing platform, and introduction of keynote speaker

Victor Veliadis, Executive Director and CTO, PowerAmerica

11:15 AM

Keynote Remarks: Weathering the Perfect Storm: Delivering More Power and Functionality Without Increasing the Size or Cost of USB PD and Rapid-Charge Adapters

Balu Balakrishnan, President and CEO of Power Integrations, Inc.

Smart phones, tablets, notebooks and other handheld devices must be charged more and more quickly to meet evolving consumer expectations. To accomplish this, smart chargers must deliver ever-more power; but need do so without increasing size or solution cost—features that are also important to users. To accomplish this, system designers are turning to GaN-based switches which significantly improve conversion efficiency. We will see how to use PowiGaN™ switch technology to raise efficiency and smart integration can increase power density and deliver more power without impacting solution cost.

12 noon

Panel Discussion: Grid and microgrid applications: What more does wide bandgap technology need to deliver?

Panelists:

Rajib Datta, Senior Principal, General Electric Global Research

Stephen Kelley, Research Engineer, Power Delivery, Southern Company

Subhashish Bhattacharya, Professor, NC State University

Fred Wang, Professor, University of Tennessee-Knoxville

Tobias Keller, Vice President, Head of Global Product Management, ABB Power Grids Switzerland Ltd, Semiconductors

1:00 PM

Intermission and instructions on virtual networking

1:10 PM

Online Networking Break to include private and group networking on Remo. Also, short videos of 30 PowerAmerica-funded SiC and GaN projects and student posters from PowerAmerica's many member universities can be viewed during the break here:

https://www.youtube.com/channel/UCABkx_pDKBvEI5OwAlmPxZg/playlists?view_as=subscriber

1:40 PM

Featured Member-Initiated Project (MIP) presentation:

Prototyping and Evaluation of High-Speed 10 kV SiC MOSFET Power Modules with High Scalability and Partial Discharge Inception Voltage

Christina DiMarino, Virginia Tech (teamed with NREL and Wolfspeed)

2:10 PM

Featured Member-Initiated Project (MIP) presentation:

Packaging a Top-cooled 650V/>150A GaN Power Module with Insulated Thermal Pads and Gate-Drive Circuit

Kevin Bai, University of Tennessee-Knoxville (teamed with GM, GaN Systems and Hella)

2:40 PM

Featured Member-Initiated Project (MIP) presentation:

Surge Energy Robustness of GaN Power Devices and Modules: Application-driven Evaluation and Physics-of-Failure Modeling

Yuhao Zhang, Virginia Tech (teamed with Lockheed Martin)

3:10 PM

Intermission and instructions on virtual networking

3:20 PM

Online Networking Break to include private and group networking on Remo. Also, short videos of 30 PowerAmerica-funded SiC and GaN projects and student posters from PowerAmerica's

many member universities can be viewed during the break here:

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3:50 PM

Overview of PowerAmerica's DoE-funded, on-going 30+ project portfolio

Victor Veliadis, Executive Director and CTO, PowerAmerica

4:10 PM

Day One concludes/Online Networking Break

4:30 PM

PowerAmerica Member Advisory Committee Meeting (*Members only*)

Wednesday, August 5, 2020 (all times EDT)

10:45 AM

Attendees may begin logging into the meeting.

11:00 AM

Welcome to Day Two and introduction of keynote speaker

Victor Veliadis, Executive Director and CTO, PowerAmerica

11:05 AM

Keynote:

Growing Market Opportunities and Ecosystem Evolution for SiC and GaN

Ezgi Dogmus, Technology and Market Analyst, Compound Semiconductors, Yole Developpement

11:50 AM

Panel discussion:

Introduction to the Wide Bandgap Programs of PowerAmerica's Newest Academic Members

Panelists:

Mark Scott, Miami University

Mohamed Badawy, San Jose State University

Juan Carlos Balda, University of Arkansas

12:35 PM

Intermission and instructions on virtual networking

12:45 PM

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1:30 PM

Review of Valuable Information on PowerAmerica Members-Only Portal

Jim LeMunyon and Julia Casadonte, PowerAmerica

1:50 PM

JEDEC – 70 update on SiC and GaN standards

Tim McDonald, JEDEC-70 Vice Chair

2:20 PM

Intermission and instructions on virtual networking

2:30 PM

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3-6:00 PM

PowerAmerica Technical Tutorials

SiC power devices: Where Are We Now and Where Are We Headed?

Jim Cooper, Sonrisa Research

Wide Bandgap Semiconductor Ecosystem in Power Supply Designs

Laszlo Balogh, Texas Instruments