

International 3D Power Electronics Integration and Manufacturing Symposium

February 1 – 3, 2023 At Florida International University



PSMA and IEEE EPS invite you to attend the Fourth Biennial International Symposium on 3D Power Electronics Integration and Manufacturing (3D-PEIM-23). This Symposium brings synergistic advances in component design and integration combined with 3D manufacturing technologies – customized to different market segments such as computing, automotive industry, energy sector, and low-power medical and wearables systems. This Symposium provides the opportunity to share progress in design, active and passive components, and integration combined with 3D manufacturing technologies for power electronics packaging.

The Symposium will be held February 1-3, 2023, at Florida International University, Miami, FL, USA., offering an opportunity to get a “winter warm-up” on Florida’s enticing beaches.

Created and supported by the PSMA’s Packaging & Manufacturing Committee, 3D-PEIM will feature invited papers highlighted by plenary and keynote addresses and contributed presentations by Industry and Academia experts. Speakers will address mechanical, materials, reliability, and manufacturability issues. There will be Exhibits and an Exhibit Sponsor’s Session.

The General Chair is **Dr. Markondayaraj Pulugurtha of the Florida International University (FIU)**, and Technical Program Co-Chairs are **Dr. John Bultitude of Kemet, a Yageo Company**, and **Dr. Vanessa Smet from Georgia Tech**. **Sponsor Chair is Dr. Devarajan Balaraman (Wolfspeed)**.

Program at a Glance

Session	Chair	Affiliation
S2: IVR for Computers and Servers	Siddarth Ravichandran	Chipletz
S3: Multiphysics Design & Tools	Rajen Murugan	Texas Instruments
S4: Additive Manufacturing	Peter Friedrichs	Infineon
S5: Manufacturing Technologies	Jason Rouse	Corning
S7: Materials I Interconnects & Lead Attachments	Andy Mackie	Indium Corporation
S8: Materials II Substrates & Encapsulants	Ninad Shahane	Texas Instruments
S9: High Power Module Integration	Cyril Buttay	Laboratoire Ampère, Lyon
S11: Thermal Management and Reliability	Patrick McCluskey	University of Maryland
S12: Passive Component Integration	John Bultitude	KEMET Corporation
S13: Low Power & Telemetry	Shubhendu Bhardwaj	Florida International University
S14: Tour of FIU Labs	Markondayaraj Pulugurtha	Florida International University

Plenary Speakers

Dr Michael Guyenot, Bosch, “Highly integrated low inductance SiC power modules.”

Professor Fred C. Lee, Virginia Tech, USA, “PCB based Integrated Magnetics.”

Dr. Brandon Passmore, Wolfspeed, “Finite-Element Predictive Modeling for Power Modules.”

Professor Katsuaki Suganuma, University of Osaka, Japan “Superior heat dissipation by low-pressure Ag sinter joining and real-time AI lifetime prediction for SiC power module.”

Dr. Mahadevan Iyer, Amkor, “Emerging Power electronics packaging and system integration for automotive applications”

Dr. Deepak Divan, Georgia Tech, “Soft-switching topologies for automotive and aircraft”

In addition, the conference features **keynote talks** from:

Dr. Michael Hill (Intel, IVR)

Dr. Minjie Chen (Princeton University, IVR and Vertical Power Delivery)

Dr. Madhavan Swaminathan (Georgia Tech - PRC, Machine Learning-based Optimization)

Dr. Rajen Murugan (Texas Instruments, Multiphysics Modeling)

Dr. Brij Singh (John Deere, Power Module Manufacturing Advances)

Dr. Patrick McCluskey (Univ. Maryland, Thermal management and reliability)

Dr. Jaim Nulman (Nano Dimension, Additive Manufacturing)

Dr. Osama Mohammad (FIU, Advanced Topologies)

Dr. Matt Kelly (IPC, Power Module Manufacturing Advances)

Dr. Thomas Foulkes (Pacergy, 3D Printed PCBs)

Dr. Srikrishna Bhogaraju (Technical University of Ingolstadt, Cu sintering interconnect analysis)

Dr. Habib Mustain (Heraeus, Power Interconnects)

Dr. Matt Wilkowski (Enachip, Wafer-Integrated Inductors)

Dr. Mike Hayes (Tyndall National Institute, Power Harvesting for IoT)

Dr. G. Q. (Virginia Tech., Nonlinear Resistive Field-Grading in Medium-Voltage Power Modules)

Call for Contributed Papers

If you would like to submit a contributed paper for presentation at the Symposium, the Call for Papers. **The abstract Submission opens from June 1, 2022, and closes on August 15, 2022**, at www.3d-peim.org/call-for-papers. Industry, Academia, and Government are invited to submit abstracts on the following technology topics:

IVR for Computers and Servers

Additive Manufacturing

Materials I Interconnects & Lead Attachments

Materials II Substrates & Encapsulants

Thermal Management and Reliability

Multiphysics Design & Tools

Manufacturing Technologies

High Power Module Integration

Passive Component Integration

Low Power & Telemetry

Registration Will Open on August 1st, 2022. Check back with us at <http://www.3d-peim.org>

[You are invited to sign up for Partnership Tabletop Exhibit Opportunities](#)

Each Exhibit Partner has the opportunity to present products at the Symposium and on a 3D-PEIM Virtual Tabletop Website page. To learn more and be an Exhibit Partner, go to <http://www.3d-peim.org/sponsors-exhibitors/>.

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