

3D-PEIM 2020 Program

Monday June 22, 2020 8:00 – 10:15	S1 Plenary I Session – Chair: Prof. Tsuyoshi Funaki, Osaka, University <ul style="list-style-type: none"> • “TBA” by Yoshikazu Takahashi, Tohoku University, Japan • “Electrification of Automobile and Activities of TOYOTA for Future Mobility” by Dr. Keiji Toda, Toyota Motor Corporation, Japan • “TBA” by Prof. Hans-Juergen Albrecht, Dresden University, Germany
12:15 – 1:00	Lunch & Networking
1:00-1:15	Opening Remarks by Symposium General Chair, Prof. Tsuyoshi Funaki, Osaka University
1:15 – 2:55	S2: Additive Manufacturing - Chairs: Patrick McCluskey, University of Maryland, USA and Douglas Hopkins, North Carolina State University, USA <ul style="list-style-type: none"> • Keynote: TBA • Invited: “TBA” by Dirk Busse, Budatec GmbH, Berlin, Germany • Invited: “A low inductive power system in package with multilayer ceramic substrate and integrated active cooling” by Olivier Mathieu, Rogers Corp. – Power Electronics Solutions, Germany • Invited: “Additive Manufacturing of High-aspect-ratio Ferrite Inductor Using an UV-curable Magnetic Feedstock” by Guo-Quan Lu, Virginia Tech, USA
2:55 – 3:25	Break & Networking
3:25 – 5:05	S3 System Integration & Thermal Management - Chair: Christina DiMarino, Virginia Tech, USA <ul style="list-style-type: none"> • Invited: “Opportunities and challenges of integrated WBG power electronics development” by Alberto Castellazzi, Kyoto University, Japan • Invited: “Thermal Solution for Cooling of Electronic Equipment using Lotus-type Porous Copper Heat Sink” by Takuya Ide (Author), Lotus Thermal Solutions, Japan, Tetsuro Ogushi (Co-Author and presenter), Lotus Thermal Solutions, Japan • Invited: “TAPIR (compact and modular Power modules with Integrated cooling) technology: goals and challenges” by Yvan Avenas, Grenoble University, France • Invited: “Inevitability of Near Chip-Scale High Power GaN & SiC Packages Replacing Even New WBG Traditional Modules” by Courtney Furnival, Semiconductor Packaging Solutions (Author), USA, presented by Arnold Alderman, Anagenesis, USA
Tuesday June 23, 2020 8:00 – 10:15	S4 Plenary II – Chair: Katsuaki Suganuma, Sanken Osaka University, Japan <ul style="list-style-type: none"> • “Diamond Device” by Toshiharu Makino, AIST, Japan • “Applications with SiC Power Devices for Railcar” by Tsuyoshi Tanaka, Mitsubishi Electric, Japan
10:15 – 10:45	Break & Networking
10:45 – 12:30	S5 Multiphysics Design and Tools - Chair: Michihiro Shintani, Nara Institute of Science and Technology (NAIST), Kansai Science City, Japan <ul style="list-style-type: none"> • Keynote: “TBA” • Invited: “TBA” Charlotte Blair, ANSYS, USA • Invited: “Lifetime prediction simulation system for the next generation power semiconductor module using silver sintering die attach” by Kenihi Oura, Advanced Simulation of Mechanics (ASTOM), Japan • Invited: “Electrical-thermal modeling and simulation for SiC power MOSFET” by Michihiro Shintani, NAIST, Japan
12:30 – 1:30	Lunch & Networking
1:30 – 3:15	S6 Materials – Chair: Jason Rouse, Sekisui America, USA <ul style="list-style-type: none"> • Keynote: “Superior reliability of power electronic packages with Die Top Systems (DTS®). Why a wire based technology solution outperforms clip based interconnections” by Michael Joerger, Heraeus Electronics, Germany • Invited: “TBA” by Takanori Kobatake, Daicel Corporation, Japan • Invited: “Space Charge Accumulation Properties in Various Insulating Materials for Power Electronics under DC High Electric Field at High Temperature” by Ryo Miyake, Tokyo City University, Japan • Invited: “Compatibility Assessment of Soft magnetic Metal-flake Composite Material for PCB embedding” by Keitaro Tanno, Tokin Corporation, Japan
3:15 – 3:45	Break & Networking
3:45 – 5:30	S7 Manufacturing Technologies - Chairs: John Bultitude, Kemet Corporation, USA <ul style="list-style-type: none"> • Keynote: “The Technology Race in Power Electronics Packaging: A Rolling Start?”, by Rainer Frauwallner, AT&S. Austria • Invited: “TBA” by Akiko Kumada and Moritoshi Sato, University of Tokyo, Japan • Invited: “Lost-foam technology for power electronics packaging” by Thomas Lei, Nio Electric Car, Shanghai China • Invited: “Advanced Photonic Curing: High-Speed Printing and soldering with light” by Kurt Schroder, NovaCentrix, USA
6:00 – 8:00	Networking Reception, poster session, vendor exhibits, with dinner
Wednesday June 24, 2020 8:00 – 10:00	S8 Sponsors Session - Chair: Minora Ueshima, Daicel, Japan <ul style="list-style-type: none"> • Sponsors Round Table Discussion:
10:00 – 10:30	Break & Networking
10:30 – 12:15	S9: Quality & Reliability – Chair: Steven Martell, Nordson Sonoscan, USA <ul style="list-style-type: none"> • Keynote: “Reliability aspects of 3D integrated power devices” by Josef Lutz, Technical University of Chemnitz, Germany • Invited: “Thermal Performance and Reliability Study on Major Designs and Packaging Process of Automobile Power Module” by Quiang Yu, Yokohama National University, Japan • Invited: “Quality Assurance of 3D Power Device Structures with Non-Destructive Imaging Techniques” by Steven Martell, Sonoscan – Nordson Electronic Solutions, USA • Invited: “Quality and reliability assurance of vacuum conduction soldering processes with big data approaches” by Aaron Hutzler, Bond Pulse, Germany
12:15 – 1:15	Lunch & Networking
1:15 – 3:00	S10: Heterogeneous Integration - Chair: Cyril Buttay, Laboratoire Ampère, France <ul style="list-style-type: none"> • Keynote: “Development of High Performance SiC Power Module” by Hiroshi Yamaguchi, National Institute of Advanced Industrial Science and Technology (AIST), Japan • Invited: “3D Power Electronics by Embedding of Components into the Build-up of Printed Circuit Boards: 2 Case Studies” by Thomas Löher, Fraunhofer IZM Germany • Invited: “Flexible Integration Of High Power Modules By Means Of IC-Embedded Sub-Modules” by Jean-Marc Yannou, ASE Group, France • Invited: “Resumption of contacts by metallic foam Electrical, thermal and reliability performance” by Mickaël Petit, SATIE Laboratory, France
3:30 – 5:30	Networking & Lab Tours – Osaka University

TBA = To be announced