3D-PEIM 2020Program

Time	Session
Monday June 22, 2020 8:00 – 10:15	**S1 Plenary I Session – Chair: Prof. Tsuyoshi Funaki, Osaka, University** • **"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 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** • **Keynote: " Developments of high power blue diode laser systems for laser metal deposition and selective laser melting in additive manufacturing"** by Masahiro Tsukamoto, Joining and Welding Research Institute, Osaka University • **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 Sustem Integration & Thermal Management - Chair: Christina DiMarino, Virginia Tech, USA** • **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** • **"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** • **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** • **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: "Novel low-temperature copper sintering paste for die bonding at 200 ℃ in nitrogen atmosphere"** 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** • **Keynote: "The Technology Race in Power Electronics Packaging: A Rolling Start?",** by Rainer Frauwallner, AT&S. Austria • **Invited: "Cavity Propagation under Pulse Voltages in Silicone Gel for Encapsulation of Power Modules"** 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"** byKurt Schroder, NovaCentrix, USA
6:00 – 8:00	**Networking Reception, poster session, vendor exhibits, with dinner**
Wednesday June 24, 2020 8:00 – 10:00	**S8: Quality & Reliability – Chair: Steven Martell, Nordson Sonoscan,USA** • **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
10:00 – 10:30	**Break & Networking**
10:30 – 12:30	**S9 Sponsors Session - Chair: Minora Ueshima, Daicel, Japan** • **Sponsors Round Table Discussion:**
12:30 – 1:30	**Lunch & Networking**
1:30 – 3:15	**S10: Heterogeneous Integration - Chair: Cyril Buttay, Laboratoire Ampère, France** • **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
3:45 – 5:45	**Networking & Lab Tours – Osaka University**

TBA = To be announced