February 5-8, 2018
Big Island, Hawaii

The Best of Today, A Preview of Tomorrow

Monday, February 5th

**Designates Distinguished Speaker*

TIME	LOCATION	
2:00p-5:30p	Foyer	REGISTRATION
		Plenary Keynote Session **Chair: Chuck Bauer, Ph.D., TechLead Corporation**
3:00p-3:35p	Lehua/Hau	**From Weapons to Wirebonds: How Global Security Drives Innovation, Supply, and Demand** Martin Goetz, Northrop Grumman Corporation
3:35p-4:10p	Lehua/Hau	**The Latest Material Technologies For System in Package** *Osamu Suzuki, Namics Corporation
4:10p-4:20p	Great Room	**Welcome Message from Phil Isaacs, IBM Corporation**
4:20p-4:55p	Lehua/Hau	**Management of Complexity in Research and Development Work** *Verena Hein, 4academy
4:55p-5:30p	Lehua/Hau	**Selected Highlights From the 2017 iNEMI Roadmap and Key Projects to Address Identified Gaps** Bill Bader, iNEMI
5:30p-6:30p	Breezeway	WELCOME RECEPTION

Tuesday, February 6th

TIME	LOCATION	Session 1 - Automotive Systems & Hardware	LOCATION	Session 2 - Materials & Reliability
8:30a-9:00a	Lehua/Hau	**Reliability Engineering Techniques for Consumer Products** *John Cooper, P.E. CRE, MSEE, Ops A La Carte, LLC	Milo	**Intermetallic Compound Formation and Mechanical Property of Sn-Cu-xCr/Cu Lead-Free Solder Joint** Bang Junghwan, Dong-Yurl Yu, Yong-Ho Ko, Min-Su Kim, Hiroshi Nishikawa, Chang-Woo Lee Korea Institute of Industrial Technology
9:00a-9:30a	Lehua/Hau	**"New Automotive" - Considerations for Reliability, Robustness and Resilience for CMOS Interconnects** *Kirsten Weide-Zaage, Ph.D., University of Hannover; *Verena Hein, X-FAB AG; Hélène Frémont, Ph.D., Université de Bordeaux	Milo	**A Flowers of Sulfur Corrosion Chamber For Testing Electronic Hardware** *Prabjit Singh, Ph.D., Larry Palmer, IBM Corporation; Haley Fu, iNEMI; Dem Lee, Jeffrey Lee, iST-Integrated Service Technology, Inc.; Karlos Guo, Jane Li Lenovo, Limited Corporation; Simon Lee, Geoffrey Tong, The Dow Chemical Company; Chen Xu, Nokia
9:30a-10:00a	Lehua/Hau	**Enhanced Driver Safety With Advanced Vision Systems** *Dwight Howard, Delphi Automotive, LLC	Milo	**Long-Term Isothermally Aged Concerns for SAC Lead-Free Solder in Harsh Environment Applications** *John Evans, Ph.D., Auburn University
10:00a-10:15a	Courtyard	**REFRESHMENT BREAK**		
10:15a-10:45a	Lehua/Hau	**Validated Physics of Failure Approaches for Automotive Reliability Assurance** *Dock Brown, CRE, DfR Solutions	Milo	**Using Cpk and Cpk Confidence Intervals to Evaluate Stencil Printing** *Ron Lasky, Ph.D., P.E., Chris Nash, Indium Corporation
11:00a-11:45a	Lehua/Hau	**Symposium Keynote I :** **Honda's New Mobility System Development Challenge;** **Key Functions and Devices for Intelligent Mobility System** Yoshiaki Sakagami, Honda		
11:45a-12:45p	Breezeway	**LUNCH BREAK**		
		Session 3- Inspection & Test Techniques		**Session 4- Cleaning Technologies**
12:45p-1:15p	Lehua/Hau	**IPC-1972 Standard for Traceability of Critical Items Based on Risk** *Cameron Shearon, Shearon-Consulting	Milo	**Cleanliness Testing for Process Acceptability** *Mark McMeen, Jonnie Johnson, Collin Langley, STI Electronics; *Mike Bixenman, DBA, David Lober, Kyzen Corporation

1:15p-1:45p	Lehua/Hau	**Comprehensive Study of Various Short Failures on Printed Circuit Board** Xiao He, Baojun Qiu, Daojun Luo, CEPREI	Milo	**Evaluation of No-Clean Flux Residues Remaining after Secondary Operations** *Phil Isaacs, Jennifery Porto, IBM Corporation; *Terry Munson, Foresite, Inc.
1:45p-2:15p	Lehua/Hau	**Advances in Computer Tomography (3D) for Demanding Electronics Applications** *Keith Bryant, Yxlon International	Milo	**Ion Chromatography Component Specific Cleanliness Testing for Process Acceptability** *Mike Bixenman, DBA, Dave Lober, Kyzen Corporation; *Mark McMeen, Collin Langley, STI Corporation
2:15p-2:45p	Lehua/Hau	**Recent Applications of Fourier Domain Imaging of Microelectronic Devices** Janet Semmens, Sonoscan, Inc.	Milo	**Problems with R.O.S.E. Testing using Today's Fluxes** Todd Rountree, *Steve Stach Austin American Technology Corporation
2:45p-3:00p	Courtyard	**REFRESHMENT BREAK**		
		Session 5- Advanced Materials **Chair: *Ron Lasky, Ph.D., P.E., Indium Corporation**		
3:00p-3:30p	Lehua/Hau	**Oxygen Vacancy Migration in MLCCs** *Dock Brown, CRE, DfR Solutions		
3:30p-4:00p	Lehua/Hau	**Update on Cu-Ni/Sn Alloy Composite Solder Paste for Harsh Environments** Stephanie Choquette, Ph.D., Iowa State University; Iver Anderson, Ames Laboratory (USDOE)		
4:00p-4:30p	Lehua/Hau	**Resistivity Stain Analysis of Graphene Coated Fabric for Wearable Electronics** *Martine Simard-Normandine, Ph.D., S. Ferguson, MuAnalysis Inc.; K. Manga, Q.-B. Ho Grafoid		
4:30p-5:00p	Lehua/Hau	**Low Melt Solder Applications and Reliability Panel** Panelists TBD		

Wednesday, February 7th

TIME	LOCATION	Session 6- Interposer & Packaging Technology	LOCATION	Session 7- Advanced Processes & Packaging
8:30a-9:00a	Lehua/Hau	**Disparities in Packaging Technologies and the Alternative Methods for Assembly: The AREA Consortium Roadmap** *David Vicari, Universal Instruments	Milo	**Development of High Reliability Photosensitive Polymide for RDL of FO-WLP** Masao Tomikawa, Ph.D., Toray Industries
9:00a-9:30a	Lehua/Hau	**Highly Accurate Wiring Fabrication Technologies By Plasma Dry Processes for 3D-IC and Fan-Out Packaging** Yasuhiro Morikawa, ULVAC, Inc.	Milo	**Challenges in Material Selection for SiP Applications** Sze Pei Lim, Andy Mackie, Ph.D., Kenneth Thum, Indium Corporation
9:30a-10:00a	Lehua/Hau	**Place-N-Bond Flex Applications** *Randy Temple, Alltemated Inc.	Milo	**Process, Geometry and Stack Related Reliability of Thick AlCu-Metal-Tracks** *Kirsten Weide-Zaage, Ph.D., University of Hannover; *Verena Hein, X-FAB AG
10:00a-10:15a	Courtyard	**REFRESHMENT BREAK**		
10:15a-10:45a	Lehua/Hau	**Smarter-SI - Smart Access to Manufacturing for Systems Integration** *Dag Andersson, Ph.D., Swerea	Milo	**Robotic Soldering of Lead Free Alloys** Thomas Truman, Kar Lin Chia, Ban Leong Choo, Sooi Jin Lee, Cynthia Tan Sok Luang, Ming Siew Tan, Kelvin Ho Ngee Boon, Venture Corporation Limited
10:45a-11:15a	Lehua/Hau	**Title TBD** Bill Chen, ASE (US) Inc.		
11:30a-12:15p	Lehua/Hau	**Symposium Keynote II:** **Integrated Intelligent Transportation And Key Enablers** *Dwight Howard, Delphi Automotive, LLC		
12:15p-1:15p	Breezeway	**LUNCH BREAK**		
		Session 8- Nanotechnology Applications		**Session 9- Advanced Packaging & Processes**
1:15p-1:45p	Lehua/Hau	**Making SiPs More Reliable Using Plasma-Based Nanocoating for Solder Joint Top Coat** Simone McElrea, M.Eng., Semblant	Milo	**Influence of Electroless Pd Plating Thickness on Solder Ball Joint Reliability** *Yoshinori Ejiri, Takehisa Sakurai, Yoshinori Arayama, Yoshiaki Tsubomatsu, Kiyoshi Hasegawa, Hitachi Chemical Co., Ltd.
1:45p-2:15p	Lehua/Hau	**The Development of Test Methodologies for Determining the Formulations and Mechanical Properties of Lead Free Nano Solder** Sammy Shina, Ph.D., P.E., Irtiza Akhtar, UMASS Lowell	Milo	**Fabrication of 2D and 3D Inductances for DC-DC Converter Integrated on Glass Interposer** Vincent Lafage, Ph.D., Dominique Drouin, Yann Beilliard, Laboratoire Nanotechnologies Nanosystemes (LN2) Université de Sherbrooke

2:15p-2:45p	Lehua/Hau	**Controlling Electric Power In Local Joule Heating to Reduce Contact Resistance of Carbon Nanotubes** Libao An, Ph.D., North China University of Science and Technology	Milo	**Design and Reliability Assessment of Stacked Fan-Out Packaging** Pao Hsiung Wang, Ph.D., An Huang, Kuo-Ning Chiang, Department of Power Mechanical Engineering, National Tsing Hua University
2:45p-3:15p	Lehua/Hau	**Applications of Nanotechnologies to Biomedicine** Ivo Rendina, National Research Council, IMM	Milo	**Uniformity Consideration in Capacitively Coupled Plasma** Jack Zhao, Ph.D., Nordson March
3:15p-3:30p	Courtyard	**REFRESHMENT BREAK**		
		Session 10- Advanced Process		
3:30p-4:00p	Lehua/Hau	**Deposit Properties of New Electroless Au/Pd/Au Process for Fine Line Application** Tatsushi Someya, Katsuhisa Tanabe, C. Uyemura & Co., Ltd.		
4:00p-4:30p	Lehua/Hau	**Etching Behaviors of Galvanic Coupled Metals in PCB Applications** Jae-Ho Lee, Ph.D., Hongik University		
4:30p-5:00p	Lehua/Hau	**Pb-Free Solders and Other Joining Materials for Potential Replacement of High-Pb Hierarchical Solders** Iver Anderson, Ames Laboratory (USDOE), Stephanie Choquette, Iowa State University; Kathlene L. Reeves and Carol Handwerker, Purdue University		
5:30p-6:00p	Breezeway	**MAI TAI BAR AND NETWORKING**		

Thursday, February 8th

TIME	LOCATION	Session 11- Heterogeneous Integration
8:30a-9:00a	Lehua/Hau	**Heterogeneous Integration Technologies at the Device and System Levels** *Rao Tummala, Ph.D., Georgia Institute of Technology
9:00a-9:30a	Lehua/Hau	**Enabline Information Age through Advanced Packaging Technologies and Electronic Materials** Rozalia Beica, Dow Chemical
9:30a-10:00a	Lehua/Hau	**Title TBD** M. Jürgen Wolf, P.E., Fraunhofer Institute of Reliability and Microintegration IZM
10:00a-10:15a	Courtyard	**REFRESHMENT BREAK**
10:15a-10:45a	Lehua/Hau	**A Study on the Novel Anchoring Polymer Layer (APL)** *Kyung Paik, Ph.D., KAIST
10:45a-11:15a	Lehua/Hau	**iNEMI Project on Process Development of BiSn-Based Low Temperature Solder Pastes Part II** *Raiyo Aspandiar, Ph.D., Shunfeng Cheng, Bill Hardin, Scott Mokler, Ph.D., P.E., Jagadeesh Radhakrishnan, Kok Kwan Tang, Intel; Haley Fu, iNEMI; Jimmy Chen, Cooper Bussmann; *Richard Coyle, Ph.D., Nokia; *Morgana Ribas, Alpha Assembly Solutions; Brook Sandy-Smith, Anny Zhang, Indium Corporation; Mark Krmpotich, Microsoft Corporation; Greg Wu, Rantec Power Systems; Wilson Zhen, IBM Procurement China Limited; Qin Chen, Eunow; Sophia Feng, Celestica
11:30a-12:15p	Lehua/Hau	**Symposium Keynote III:** **Cost Effective Solutions for SiP and Miniaturized Modules** Dongkai Shangguan, Ph.D., Flex
12:15p-1:00p	Breezeway	**Conference Concludes**
6:00p-9:00p	Pool Side	**Private Luau**