**February 5-8, 2018**
**Big Island, Hawaii**

*The Best of Today, A Preview of Tomorrow*

## Monday, February 5th

**Designates Distinguished Speaker*

| TIME | LOCATION | |
|---|---|---|
| 12:00p-5:30p | Foyer | **REGISTRATION** |
| | | **Plenary Session**<br>**Chair: Chuck Bauer, Ph.D., TechLead Corporation** |
| 2:00p-2:35p | Lehua/Hau | **From Weapons to Wirebonds: How Global Security Drives Innovation, Supply, and Demand**<br>Martin Goetz, Northrop Grumman Corporation |
| 2:35p-3:10p | | **Enabling Information Age through Advanced Packaging Technologies and Electronic Materials**<br>Rozalia Beica, The Dow Chemical Company |
| 3:10p-3:45p | Lehua/Hau | **The Latest Material Technologies For System in Package**<br>*Osamu Suzuki, Namics Corporation |
| 3:45p-4:00p | Courtyard | **Refreshment Break** |
| 4:00p-4:35p | Lehua/Hau | **Management of Complexity in Research and Development**<br>*Verena Hein, 4academy |
| 4:35-5:10p | Lehua/Hau | **Selected Highlights From the 2017 iNEMI Roadmap and Projects to Address Identified Gaps**<br>Bill Bader, iNEMI |
| 5:30p-6:30p | Breezeway | **WELCOME RECEPTION** |

## Tuesday, February 6th

| TIME | LOCATION | Session 1 - Automotive Systems & Hardware<br>Chair: *Kirsten Weide-Zaage, Ph.D., University of Hannover | LOCATION | Session 2 - Materials & Reliability<br>Chair: K. N. Chiang, Ph.D., National Tsing Hua University |
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| 8:30a-9:00a | Lehua/Hau | **A Flowers of Sulfur Corrosion Chamber For Testing Electronic Hardware**<br>*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 | Milo | **Intermetallic Compound Formation and Mechanical Property of Sn-Cu-xCr/Cu Lead-Free Solder Joint**<br>Bang Junghwan, Dong-Yurl Yu, Yong-Ho Ko, Min-Su Kim, Hiroshi Nishikawa, Chang-Woo Lee<br>Korea Institute of Industrial Technology |
| 9:00a-9:30a | Lehua/Hau | **Long-Term Isothermally Aged Concerns for SAC Lead-Free Solder in Harsh Environment Applications**<br>*John Evans, Ph.D., Auburn University | Milo | |
| 9:30a-10:00a | Lehua/Hau | **Enhanced Driver Safety With Advanced Vision Systems**<br>*Dwight Howard, Delphi Automotive, LLC | Milo | **Using Cpk and Cpk Confidence Intervals to Evaluate Stencil Printing**<br>*Ron Lasky, Ph.D., P.E., Chris Nash, Indium Corporation |
| 10:00a-10:15a | Courtyard | **REFRESHMENT BREAK** | | |
| 10:15a-10:45a | Lehua/Hau | **"New Automotive" - Considerations for Reliability, Robustness and Resilience for CMOS Interconnects**<br>*Verena Hein, X-FAB AG; Hélène Frémont, Ph.D., Université de Bordeaux<br>*Kirsten Weide-Zaage, Ph.D., University of Hannover; | | |
| 11:00a-11:45a | Lehua/Hau | **Symposium Keynote I :**<br>**iPhone X - Steve Jobs' iPhone**<br>*Bill Cardoso, Ph.D., Creative Electron, Inc.<br><br>Chair: Yasumitsu Orii, Ph.D., NAGASE Group | | |
| 11:45a-12:45p | Breezeway | **LUNCH BREAK** | | |
| | | **Session 3- Inspection & Test Techniques**<br>Chair: *Dag Andersson, Ph.D., Swerea IVF AB | | **Session 4- Cleaning Technologies**<br>Chair: *Raiyo Aspandiar, Ph.D., Intel Corporation |

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| **12:45p-1:15p** | Lehua/Hau | **IPC-1782 Standard for Traceability of Critical Items Based on Risk**<br>*Cameron Shearon, Shearon-Consulting | Milo | **Cleanliness Testing for Process Acceptability**<br>*Mark McMeen, Jonnie Johnson, Collin Langley, STI Electronics;<br>*Mike Bixenman, DBA, David Lober, KYZEN Corporation |
| **1:15p-1:45p** | Lehua/Hau | **The Development of Test Methodologies for Determining the Formulations and Mechanical Properties of Lead Free Nano Solder**<br>Sammy Shina, Ph.D., P.E., Irtiza Akhtar, UMASS Lowell | Milo | **Evaluation of No-Clean Flux Residues Remaining after Secondary Operations**<br>*Phil Isaacs, Jennifery Porto, IBM Corporation;<br>*Terry Munson, Foresite, Inc. |
| **1:45p-2:15p** | Lehua/Hau | **Advances in Computer Tomography (3D) for Demanding Electronics Applications**<br>*Keith Bryant, Yxlon International GmbH | Milo | **Ion Chromatography Component Specific Cleanliness Testing for Process Acceptability**<br>*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**<br>Janet Semmens, Sonoscan, Inc. | Milo | **Problems with R.O.S.E. Testing using Today's Fluxes**<br>*Todd Rountree, *Steve Stach<br>Austin American Technology Corporation |
| **2:45p-3:00p** | Courtyard | **REFRESHMENT BREAK** | | |
| | | **Session 5- Advanced Materials**<br>Chair: *Ron Lasky, Ph.D., P.E., Indium Corporation | | |
| **3:00p-3:30p** | Lehua/Hau | **Oxygen Vacancy Migration in MLCCs**<br>*Dock Brown, CRE, DfR Solutions | | |
| **3:30p-4:00p** | Lehua/Hau | **Intermetallic Information of SN Solder on Cu-XNI for a Harsh Enviroment Composite Solder Paste**<br>Stephanie Choquette, Iowa State University; Iver Anderson, Ph.D., Ames Laboratory (USDOE) | | |
| **4:00p-4:30p** | Lehua/Hau | **Resistivity Stain Analysis of Graphene - Based Ink Coated Fabrics for Wearable Electronics**<br>*Martine Simard-Normandine, Ph.D., S. Ferguson, MuAnalysis Inc.; K. Manga, Q.-B. Ho Grafoid | | |
| **4:30p-5:15p** | Lehua/Hau | **Low Melt Solder Applications and Reliability Panel**<br><br>**Moderator:** Ron Lasky, Ph.D., P.E., Indium Corporation<br><br>**Panelists:**<br>Iver Anderson, Ph.D., Ames Laboratory<br>*John Evans, Ph.D., Auburn University<br>*Dwight Howard, Delphi Automotive, LLC<br>*Todd Roundtree, Austin American Technology Corporation<br>*Prabjit Singh, Ph.D., IBM Corporation | | |

## Wednesday, February 7th

| TIME | LOCATION | Session 6- Interposer & Packaging Technology<br>Chair: Osamu Suzuki, Namics Corporation | LOCATION | Session 7- Advanced Processes & Packaging<br>Chair:*Martine Simard-Normandine, Ph.D., MuAnalysis Inc. |
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| **8:30a-9:00a** | Lehua/Hau | **Disparities in Packaging Technologies and the Alternative Methods for Assembly: The AREA Consortium Roadmap**<br>*David Vicari, Universal Instruments | Milo | **Development of High Reliability Photosensitive Polymide for RDL of FO-WLP**<br>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**<br>Yasuhiro Morikawa, ULVAC, Inc. | Milo | **Challenges in Material Selection for SiP Applications**<br>Sze Pei Lim, Andy Mackie, Ph.D., Kenneth Thum, Indium Corporation |
| **9:30a-10:00a** | Lehua/Hau | **Process, Geometry and Stack Related Reliability of Thick AlCu-Metal-Tracks**<br>*Kirsten Weide-Zaage, Ph.D., University of Hannover;<br>*Verena Hein, X-FAB AG | Milo | **Robotic Soldering of Lead Free Alloys**<br>Thomas Truman, Kar Lin Chia, Ban Leong Choo, Sooi Jin Lee, Cynthia Tan Sok Luang, Ming Siew Tan,<br>Kelvin Ho Ngee Boon, Venture Corporation Limited |
| **10:00a-10:15a** | Courtyard | **REFRESHMENT BREAK** | | |
| **10:15a-10:45a** | Lehua/Hau | **Smart Access to Small Lot Manufacturing For Systems Integration**<br>*Dag Andersson, Ph.D., Swerea IVF AB | Milo | **Impact on Water Cooled Heatsink Design from SMT Component Movement During Reflow**<br>Joe Fuller, Intel Corporation |
| **11:00a-11:45a** | Lehua/Hau | **Symposium Keynote II:**<br>**Integrated Intelligent Transportation And Key Enablers**<br>*Dwight Howard, Delphi Automotive, LLC<br><br>Chair: *Dock Brown, CRE, DfR Solutions | | |
| **11:45a-12:45p** | Breezeway | **LUNCH BREAK** | | |
| | | **Session 8- Advanced Packaging & Processes**<br>Chair: *Viktoria Rawinski, Ersa GmbH | | |

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| **12:45p-1:15p** | Lehua/Hau | **Influence of Electroless Pd Plating Thickness on Solder Ball Joint Reliability**<br>*Yoshinori Ejiri, Takehisa Sakurai, Yoshinori Arayama, Yoshiaki Tsubomatsu, Kiyoshi Hasegawa, Hitachi Chemical Co., Ltd. |
| **1:15p-1:45p** | Lehua/Hau | **Fabrication of 2D and 3D Inductors for DC-DC Converters Integrated on Glass Interposer**<br>Vincent Lafage, Ph.D., Dominique Drouin, Yann Beilliard, Laboratoire Nanotechnologies Nanosystemes (LN2) Université de Sherbrooke |
| **1:45p-2:15p** | Lehua/Hau | **Design and Reliability Assessment of Stacked Fan-Out Packaging**<br>Pao Hsiung Wang, Ph.D., An Huang, Kuo-Ning Chiang, Department of Power Mechanical Engineering, National Tsing Hua University |
| **2:15p-2:45p** | Lehua/Hau | **Uniformity Consideration in Capacitively Coupled Plasma Part I**<br>Jack Zhao, Ph.D., Nordson March |
| **2:45p-3:00p** | Courtyard | **REFRESHMENT BREAK** |
| | | **Session 9- Advanced Process**<br>Chair: *Keith Bryant, Yxlon International GmbH |
| **3:00p-3:30p** | Lehua/Hau | **Deposit Properties of New Electroless Au/Pd/Au Process for Fine Line Application**<br>Tatsushi Someya, Katsuhisa Tanabe, C. Uyemura & Co., Ltd. |
| **3:30p-4:00p** | Lehua/Hau | **Etching Behaviors of Galvanic Coupled Metals in PCB Applications**<br>Jae-Ho Lee, Ph.D., Hongik University |
| **4:00p-4:30p** | Lehua/Hau | **Pb-Free Solders and Other Joining Materials for Potential Replacement of High-Pb Hierarchical Solders**<br>Iver Anderson, Ph.D., Ames Laboratory (USDOE), Stephanie Choquette, Iowa State University; Kathlene L. Reeves and Carol Handwerker, Purdue University |
| **4:30p-5:00p** | Breezeway | **MAI TAI BAR AND NETWORKING** |

## Thursday, February 8th

| TIME | LOCATION | Session 10- Heterogeneous Integration<br>Chair: *Eddie Kobeda, Ph.D., Nypro, A Jabil Company |
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| **8:30a-9:00a** | Lehua/Hau | **Heterogeneous and Homogeneous Package Integration Technologies at the Device and System Levels**<br>*Rao Tummala, Ph.D., Georgia Institute of Technology |
| **9:00a-9:30a** | Lehua/Hau | **Packaging MEETS Heterogeneous Integration Driving Direction for Advanced System in Packages**<br>Jürgen Wolf, P.E., Fraunhofer IZM |
| **9:30a-10:00a** | Lehua/Hau | **A Study on the Novel Anchoring Polymer Layer (APL)**<br>*Kyung Paik, Ph.D., KAIST |
| **10:00a-10:15a** | Courtyard | **REFRESHMENT BREAK** |
| **10:15a-11:00a** | Lehua/Hau | **iNEMI Project on Process Development of BiSn-Based Low Temperature Solder Pastes - Part II: Characterization of Mixed Alloy BGA Solder Joints**<br>*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 |
| **11:00a-11:45a** | Lehua/Hau | **Symposium Keynote III: Cost Effective Solutions for SiP and Miniaturized Modules**<br>Dongkai Shangguan, Ph.D., Flex<br><br>Chair: *Dwight Howard, Delphi Automotive, LLC |
| **12:00p** | | **Conference Concludes** |
| **6:00p-9:00p** | Pool Side | **Private Luau** |