

## Sessions at a Glance: Monday, September 18

7:00 AM	Registration Opens		
	<b>Harsh Environments Symposium</b>	<b>Technical Innovations Symposium</b>	<b>Women's Leadership Program</b>
	<p>Session HE1 - Predicting Component Life for Harsh Environments</p> <p>Chair: *Pradeep Lall, Ph.D., M.B.A., Auburn University</p> <p>Co-Chair: Michael Peterson, Seagate Technology</p>	<p>Session TI1 -</p> <p>Chair: David Reitz, Inventec Performance Chemicals</p> <p>Co-Chair: Steve Greathouse, Plexus Corp.</p>	Program begins at 1:30 PM
8:30 AM	<p>Fatigue Life Prediction Model for LEDs on Metal Core Printed Circuit Boards (MCPCBs) with Pb-free Solder Alloys</p> <p>Maxim Serebreni, DfR Solutions</p>	<p>Solder Paste Jetting, an Integral Approach</p> <p>Jeffrey Leal, Mycronic</p>	
9:00 AM	<p>Thermal Cycling – It Doesn't Have to be a Waste of Time and Money</p> <p>*Peter Borgesen, Ph.D., Binghamton University</p>	<p>Micro-dispensed 50 Micron Solder Dots from Type VII Solder</p> <p>Kenneth Church, Ph.D., nScript, Inc.</p>	
9:30 AM	<p>R1 – a German Reliability Comparison Study between 14 Lead free Alloys</p> <p>*Joerg Trodler, Dipl.-Ing., Heraeus Electronics</p>	<p>Modern Multi-Material - 3D - Manufacturing with Separate Toner Layer Structure Production and Component Assembly</p> <p>Ralf-Kilian Zäh, M.Sc., ZeMA - Zentrum für Mechatronik und Automatisierungstechnik (Centre for Mechatronics and Automation)</p>	
10:00 AM	Refreshment Break		
	<b>Harsh Environments Symposium</b>	<b>Technical Innovations Symposium</b>	<b>Women's Leadership Program</b>
	<p>Session HE2 - Impact of Chemically Corrosive Environments to the Reliability of Electronic Components</p> <p>Chair: Sa'd Hamasha, Ph.D., Auburn University</p> <p>Co-Chair: Alex Schreiner, Newson USA LLC</p>	<p>Session TI2 –</p> <p>Chair: Brian Toleno, Ph.D., Microsoft Corporation</p> <p>Co-Chair:</p>	Program begins at 1:30 PM
10:30 AM	<p>Effect of Cl<sub>2</sub>, NO<sub>2</sub>, RH and Temperature on Ag and Cu Corrosion in a Mixed Flowing Gas Chamber</p> <p>Bo Yuan, University of Delaware</p>	<p>Moisture Effects in Common Solderable RF Connector Dielectrics Part II: Characterization of Damage Threshold Moisture Level for Moisture Sensitive Polymers</p> <p>Jeff Jennings, Harris Corporation</p>	
11:00 AM	<p>Round Robin Testing of Creep Corrosion Dependence on Relative Humidity</p> <p>*Prabjit Singh, Ph.D., IBM Corporation</p>	<p>1000 Days of Testing Sn Whiskering PCB Assemblies to Determine the Suitability of Conformal Coatings to Mitigate Against Shorting</p> <p>Martin Wickham, National Physical Laboratory</p>	
11:30 AM	<p>Packages and Interconnects under Harsh Conditions</p> <p>*Kirsten Weide-Zaage, Ph.D., Leibniz Universität Hannover</p>	<p>Silicone Pressure Testing</p> <p>Kent Larson, Dow</p>	

12:00 PM	Lunch Break		
	Harsh Environments Symposium	Technical Innovations Symposium	Women's Leadership Program
12:30 PM	<b>Session HE3 - Material Selection and Test Methods for Harsh Environments</b>  <b>Chair: Mike Buetow, CIRCUITS ASSEMBLY Magazine</b> <b>Co-Chair: Scott Priore, Cisco Systems, Inc.</b>	<b>TI Luncheon Keynote Presentation</b> <b>Chair: Rob Boguski, Datest Corporation</b> <b>Co-Chair:</b>  <b>iNEMI TITLE</b> Bill Bader, iNEMI 12:30 PM - 1:45 PM	<b>Session WLP -</b>
1:30 PM	<b>Utilization of the IPC B52 Test Board for Platform Release in the Automotive Industry</b> Lothar Henneken, Ph.D., Robert Bosch GmbH	<b>Break</b> <b>1:45 PM</b>	<b>The Current State of Women in Manufacturing and the Future Forecast</b> Allison Grealis, Women in Manufacturing 1:30 PM - 2:15 PM
2:00 PM	<b>Effect of Long-Term Aging on SnAgCu Solder Joints Reliability in Mechanical Cycling Fatigue</b> Francy John Akkara, Auburn University	<b>Fracture Toughness of Thermally Conductive Adhesives</b> *John Timmerman, Ph.D., Henkel	<b>IoT - Connected with a Purpose</b> Ed Calusinski, IBM Corporation 2:15 PM - 3:00 PM
2:30 PM	<b>Ceramic Capacitor Failures – Recent Realities</b> *Dock Brown, CRE, DfR Solutions	<b>Silicone Hot-Melt Technology: A New Alternative for a Fast Assembly Operation</b> Luis Carlos Montemayor, Dow Corning Corporation	
3:00 PM	Refreshment Break		
	Harsh Environments Symposium	Technical Innovations Symposium	Women's Leadership Program
	<b>Session HE4 - Ruggedization of Electronics Components for Demanding Automotive Applications</b>  <b>Chair: Babak Arfaei, Ph.D., Ford Motor Company</b> <b>Co-Chair: Jeff Jennings, Harris Corporation</b>	<b>Session TI4 - Panel</b>  <b>Chair: Reza Ghaffarian Ph.D., Jet Propulsion Laboratory</b> <b>Co-Chair: Paul Wang, Ph.D., Mitac International Corporation</b>	<b>Session WLP -</b>  <b>Chair: Priyanka Dobriyal, Ph.D., Intel Corporation</b>
3:30 PM	<b>Continued Advances in the Research of a Cu-Ni/Sn High Temperature Pb-Free Composite Solder Paste</b> Stephanie Choquette, Iowa State University	<b>Panel Discussion</b>  <b>Panel Level Technologies for Packaging</b> Lars Böttcher, Fraunhofer Institute <b>What is new in Electronics</b> Steve Greathouse, Plexus Corp. <b>Challenges with 3D/2.5D Packaging</b> Charles Woychik, Ph.D., i3 Electronics <b>Electronics and Optics Trends</b> Irene Sterian, P.E., Celestica Inc.	<b>How Brain-like Machine Learning Changed My Daily Work</b> Hengemah James, Intel Corporation 3:30 PM - 4:15 PM
4:00 PM	<b>Reliability of Doped Ball Grid Array Components in Thermal Cycling after Long-term Isothermal Aging</b> Seth Gordon, Auburn University		<b>Panel Discussion</b> <b>Diversity in the Workplace</b> <b>Moderator: Claire Saunders, WNIe</b> 4:15 PM - 5:00 PM
4:30 PM	<b>The Necessity of Temperature Humidity Bias Testing with High Voltages - 1000 V</b> Erik Biehl, Ph.D., Robert Bosch GmbH		<b>Q&amp;A</b>

## Sessions at a Glance: Tuesday, September 19

7:00 AM	Registration Opens				
8:00 AM	SMTA Annual Meeting & Keynote Presentation				
10:00 AM	Refreshment Break				
	<b>Advanced Packaging Technology Track</b>	<b>Manufacturing Excellence Track</b>	<b>Substrates/PCB Technology Track</b>	<b>Flux, Solder, Adhesives Track</b>	<b>Spotlight Series</b>
	Session APT1 - Analysis  Chair: Martin Anselm, Ph.D., Rochester Institute of Technology Co-Chair: Bill Barthel, Plexus Corp.	Session MFX1 - Factory Automation  Chair: Eddie Kobeda, Ph.D., Visionary Thinking Group Co-Chair: Roy Starks, Libra Industries	Session SUB1 - Copper Plating  Chair: Jim Pierce, Axiom Electronics Co-Chair: Rob Rowland, Axiom Electronics	Session FSA1 - Solder Paste Combination  Chair: Ursula Marquez de Tino, Ph.D., Plexus Corp. Co-Chair: Mathias Nowotnick, Ph.D., University of Rostock	Spotlight 1 - Component Challenges  Chair: *Chuck Woychik, Ph.D., i3 Electronics
11:00 AM	Failure Analysis for Small Form Factor Devices *Priyanka Dobriyal, Ph.D., Intel Corporation	Industry 4.0 and the Cognitive Transformation of Electronics Manufacturing *Marie Cole, IBM Corporation	Copper Pillar Plating Systems High Speed - Low Heat Albert Angstenberger, Ph.D., MacDermid Enthone Electronics Solutions	Rheology Behavior of Flux and Solder Paste Fan Gao, Kester	Void Reduction Strategy for Bottom Termination (BTC) Components Using Special Flux Coated Preforms Jerry Sidone, Alpha Assembly Solutions
11:30 AM	Automating C-SAM® Process Control - From the Lab to the Fab and Back-End Jack Richtsmeier, Sonoscan, Inc.	How Your Factory Will Become Smart With CIM And IoT Michael Ford, Mentor Graphics	Copper Paste for the Novel Process Kosuke Urashima, Hitachi Chemical	Development of a Low Voiding lead-free Solder Paste for High Reliability Applications Emmanuelle Guéné, Inventec Performance Chemicals	Solder Geometry Prediction of 01005 Packages using Surface Evolver with Validations Narayanan Manickam, SMTC Corporation
12:00 PM	SMT Electrolytic Capacitor Solder Joint Criteria & Integrity Investigation *David Hillman, Rockwell Collins	Enabling Intelligent Supply Chain for Electronics Manufacturing *Thilo Sack, Celestica	Innovative Acid Copper Process for Simultaneously Filling Vias and Plating Through Holes Maria Nikolova, Ph.D., MacDermid Enthone	Solder Powder Characteristics and their Effect on Fine Pitch Printing of Solder Paste Amir Nobari, Ph.D., 5N Plus Micro Powders Inc.	Contact Interconnect Challenge and Resolution-The DDR4 Dual-Contact Methodology, Component, and Board Level Reliability *Paul E. Wang, Ph.D., MITAC International Corp
12:30 PM	Lunch Break				
	<b>Advanced Packaging Technology Track</b>	<b>Manufacturing Excellence Track</b>	<b>Substrates/PCB Technology Track</b>	<b>Flux, Solder, Adhesives Track</b>	<b>Spotlight 2</b>
	Session APT2 - BTC Leadless  Chair: Anny Zhang, Indium Corporation Co-Chair: Andrew Mawer, NXP Semiconductor	Session MFX2 -Printing  Chair: Dudi Amir, Intel Corporation Co-Chair: Tim Jensen, Indium Corporation	Session SUB2 - Surface Finishes  Chair: Don Banks, Abbott Co-Chair: Mark Fulcher, Continental Automotive	Session FSA2 - Solder Alloy  Chair: Lynnette Colby, Kester Co-Chair: Jason Emes, Pennatronics Corporation	Spotlight 2 - Quality & Reliability  Chair: *Jason Fullerton, Alpha Assembly Solutions
2:00 PM	Design for Excellence: Inductor Form, Fit, Function Equivalence & New Design Rules *Matt Kelly, P.Eng, MBA, IBM Corporation	Stencil Printing Techniques for Challenging Heterogeneous Assembly Applications Part 2 *Jeff Schake, ASM Assembly Systems, LLC	Achieving a Successful ENIG Finished PCB Under Revision A of IPC 4552 *Lenora Clark, MacDermid Enthone	New Pb-Free Solder Alloy for Demanding Applications *Mehran Maalekian, Ph.D., AIM Solder	Lean Reliability Program to Meet Today's Electronics Manufacturing Demand *Rita Mohanty, Ph.D., Alpha Assembly Solutions
2:30 PM	Bucking BTC/QFN Convention - Design for Survival. Sound Design for QFN, supported by DoE Russell Steiner, Allegion	Stencil and Solder Paste Inspection for Miniaturized SMT Components- Revisited Four Years Later *Chrys Shea, Shea Engineering Services; *Bob Farrell, Benchmark Electronics, Inc.	The Impact of deposition thickness on High Speed Shear Test result specifically related to Electroless Palladium and Semi Autocatalytic Gold Daniel Schmidt, Atotech Deutschland GmbH	Alternative Strengthening Mechanism for Lead-Free Solders *Keith Sweatman, Nihon Superior Company, Ltd.	Reliability Engineering: Skills/Knowledge, Experience & Education Manthos Economou, NVIDIA
3:00 PM	Optimization of Stencil Opening, Package Tilting and BLR Performance of SON Packages Andy Zhang, Texas Instruments	Stencil Aperture Area Ratio Extension – Impact of Stencil Technology, Solder Paste Chemistry and Solder Particle Size *Srinivasa Aravamudhan, Intel Corporation	Characteristics of New Electroless Au/Pd/Au Process for Fine Line Application Tetsuya Sasamura, Ph.D., C. Uyemura & Co.,Ltd.	Novel Solder Alloy with Wide Service Temperature Capability for Automotive Applications *Ning-Cheng Lee, Ph.D., Indium Corporation	SSD Quality in Enterprise Storage Application - Key learning and E2E approach Dave Verburg, IBM Corporation
3:30 PM		How Creating a Stencil Process that Focuses in the Aperture Design Improves Cp and CpK Values of any Printer Process Dacil Cruz, Interlatin			IPC-1782 Standard for Traceability of Critical Items Based On Risk Cameron Shearon, AT&T
4:00 PM	New Product Showcase on the Expo Floor - Hall F				

## Sessions at a Glance: Wednesday, September 20

7:00 AM	Registration Opens				
	<b>Advanced Packaging Technology Track</b>	<b>Manufacturing Excellence Track</b>	<b>Substrates/PCB Technology Track</b>	<b>Flux, Solder, Adhesives Track</b>	<b>Spotlight Series</b>
	Session APT3 - Thermal/Power Packaging  Chair: *Richard Coyle, Ph.D., Nokia Co-Chair: *Chuck Woychik, Ph.D., i3 Electronics	Session MFX3 - Product Assembly Challenges  Chair: *Dock Brown, DfR Solutions Co-Chair: Lars Bruno, M.Sc., Ericsson AB	Session SUB3 - ENEPIG  Chair: *Rita Mohanty, Ph.D., Alpha Assembly Solutions Co-Chair: Tony Lentz, M.Sc., FCT Assembly, Inc.	Session FSA3 - Flux Reliability  Chair: Yanrong Shi, Ph.D., Kester Co-Chair: Eric Bastow, Indium Corporation	Spotlight 3 - Solder Alloys and Soldering  Chair: Chandradip Patel, Ph.D., Schlumberger
8:00 AM	The High Reliable Package Die-Bonding with Sintering Copper Paste Hideo Nakako, Ph.D., Hitachi Chemical Co., Ltd.	Practical Application and Analysis of Lead-Free Solder for Hearing Aids Youngtak Lee, Starkey Hearing Technologies		Dendritic Growth from Chemical Contamination and Partial Cleaning: Fundamental Tests and Application Study  *Mike Bixenman, DBA, KYZEN Corporation	Resource-efficient and Cost-effective Wave Soldering - Plasma Fluxing, Pulsar Preheating and Lead Free Low Temperature Soldering Andreas Reinhardt SEHO Systems GmbH
8:30 AM	High Performance Electronic Interconnect Materials Characterization - Techniques & Challenges Nicholas Herrick, Alpha Assembly Solutions	Impact of Test Vehicle on Process Development for Fine Pitch WLP-CSP Assembly  *Iulia Muntele, Sanmina Corporation	Hybrid Laminate Structure For Minimizing Pad Cratering  *Chen Xu, Ph.D., Nokia	No-Clean Flux: A Potential Ionic Contaminant  *Terry Munson, Foresite, Inc.	Comparative Study on Impact of Various Low Creep Doped Alloys Anto Raj, Auburn University
9:00 AM	Reliability Assessment of Die Attachment Materials for High Power Chip Package Design Hanxue Liu, P.E., Ericsson (China) Communications Company Limited	Characterization Study of Surface Mount Processes for Miniature RF and Co-Axial Connectors  Vineeth Bastin, Nordson DAGE	Comprehensive Study of Various Short Failures on Printed Circuit Board  Xiao He, CEPREI	A Comparison of Localized Electronics Cleanliness Testing and Surface Insulation Resistance – Part 2  *Jason Fullerton, Alpha Assembly Solutions	Novel Mid-Temperature Alloy for Enabling Solder Processing Temperature Hierarchy in SMT Assembly  Ranjit Pandher, Ph.D., Alpha Assembly Solutions
9:30 AM	Nano-Cu Sintering Paste for High Power Devices Die Attach Applications  *Ning-Cheng Lee, Ph.D., Indium Corporation	Particle Impact Dampers (PID) can Mitigate Random Vibration Fatigue in Printed Circuit Boards  Ron Hunt, Topline	Assembly Reliability of FPBG/FCBGA on HASL/ENEPIG  *Reza Ghaffarian, Ph.D., Jet Propulsion Laboratory		RoHS Eleven Years Later: How has it Gone  *Ron Lasky, Ph.D., P.E., Indium Corporation
10:00 AM					
	<b>Advanced Packaging Technology Track</b>	<b>Manufacturing Excellence Track</b>	<b>Substrates/PCB Technology Track</b>	<b>Flux, Solder, Adhesives Track</b>	<b>Spotlight Series</b>
	Session APT4 - Reliability 1  Chair: Marie Cole, IBM Corporation Co-Chair: Michael Peterson, Seagate Technology	Session MFX4 - Reflow  Chair: Ray Whittier, BAE Systems Co-Chair: Greg Kloiber, Ducommun Incorporated	Session SUB4 - PCB Reliability  Chair: Lars Böttcher, Fraunhofer Institute Co-Chair: Jörg Trodler, Heraeus Electronics	Session FSA4- Underfill  Chair: Chris Pozo, Molex Co-Chair: Debbie Carboni, KYZEN Corporation	Spotlight 4 - Process Control  Chair: Eric Camden, Foresite, Inc. Co-Chair: Joe Rousseau, Precision Analytical Laboratory, Inc.
11:00 AM	Thermal Cycle Reliability of a Low Silver Ball Grid Array Assembled with Tin Bismuth Solder Paste  *Richard Coyle, Ph.D., Nokia	Lead-free Solder Paste Development for Ultra-Fine Pitch Printing and Reflow of 03015 and 0201 Metric Chip Components  *Jasbir Bath, KOKI Solder America	Solder Ball Joint Reliability with Electroless Ni/Pd/Au Plating "Influence of Phosphorus Content and Thickness of Electroless Pd Plating Film"  *Yoshinori Ejiri, Hitachi Chemical Co., Ltd.	Optimization Study of Filler Loading Level on Interconnection Performance with OSCA-R Materials  Joseph Biggs, Kester	Flux Amount Control for a Consistent Process Quality  *Gerjan Diepstraten, Vitronics Soltec BV
11:30 AM	Solder-Joint Reliability of a Large Body Molded Array Package  *Burton Carpenter, NXP Semiconductors	Void Reduction in Reflow Soldering Processes by Sweep Stimulation of PCB Substrate – Influence of Eigenmodes  *Viktoria Rawinski, Ersu GmbH	Evaluation of the use of ENEPIG in Small Solder Joints under Thermal Cycling  Ben Gumpert, Lockheed Martin	Improved Mechanical Reliability of Low-Temperature Solder Alloys Using Surface Mount Adhesive  Shantanu Joshi, KOKI Solder America	Cleanliness Process Control - An Innovative Approach to a Complex Problem  *Mike Bixenman, DBA, KYZEN Corporation
12:00 PM	Mitigation Strategies to Enhance Product-level BGA Shock Performance for Various Heat Sink Attachment Methodologies Weidong Xie, Ph.D., Cisco	SMT Profiling: Does it Represent Product Reflow Exposure?  Mitchell Ferrill, IBM Corporation	The Mechanism of Nickel Corrosion in ENEPIG Deposits and How to Mitigate It  *George Milad, Uyemura International Corporation	High Reliability and High Temperature Application Solution Solder Joint Encapsulant Paste Wusheng Yin, Ph.D., YINCAE Advanced Materials, LLC	SMT Wars – Lesson Learned from an Electronic Contract Manufacturer and the Customer Who Sued Them  *Mike Konrad, Aqueous Technologies
12:30 PM	Lunch Break				
	<b>Advanced Packaging Technology Track</b>	<b>Manufacturing Excellence Track</b>		<b>Flux, Solder, Adhesives Track</b>	<b>Spotlight Series</b>
	Session APT5 - Reliability 2  Chair: *Burton Carpenter, NXP Semiconductors Co-Chair: Jasbir Bath, Bath Consultancy LLC	Session MFX5 - Void Reduction  Chair: Tom Borkes, The Jefferson Project Co-Chair: Rich Henrick, Sanmina Corporation		Session FSA5 - Low Melting Alloy  Chair: Adam Murling, Indium Corporation Co-Chair: Hemal Bhavsar, Kester	Spotlight 5 - Panel Discussion
2:00 PM	Investigation of the Influence of Voids on the Reliability of Solder Joints by the Finite Element Method  Christian Schwarzer, Fraunhofer ISC	Process, Design and Material Factors for Voiding Control for Thermally Demanding Applications  Amit Patel, Alpha Assembly Solutions		Possibilities and Limits of Bismuth Solders Mathias Nowottnick, Ph.D., University of Rostock	Panel: Warpage Induced Defects & Component Warpage Limits
2:30 PM	The Effect of Vacuum Reflow Processing on Solder Joint Voiding and Thermal Fatigue Reliability  *Richard Coyle, Ph.D., Nokia	Effect of Voids on Thermo-Mechanical Reliability of Solder Joints Morgana Ribas, Ph.D., Alpha Assembly Solutions		Low Temperature Soldering Using Sn-Bi Alloys Morgana Ribas, Ph.D., Alpha Assembly Solutions	
3:00 PM	Reliability of CGA/PGA Assemblies under Harsh Thermal Cycles  *Reza Ghaffarian, Jet Propulsion Laboratory	Fill the Void III  *Tony Lentz, MBS, FCT Assembly, Inc.		iNEMI Project on Process Development and Solder Joint Reliability Assessment of BiSn-Based Low-Temperature Solder Pastes  Haley Fu, iNEMI	
3:30 PM	Appreciation Reception on the Expo Floor - Hall F				

## Sessions at a Glance: Thursday, September 21

7:00 AM	Registration Opens			
	<b>Advanced Packaging Technology Track</b>	<b>Manufacturing Excellence Track</b>	<b>Inspection Technologies</b>	<b>Lead-Free Symposium</b>
	Session APT6 - Advanced Packaging  Chair: Brian Roggeman, Qualcomm Technologies Inc. Co-Chair: *Matt Kelly, MBA, P.Eng, IBM Corporation	Session MFX6 - Cleaning  Chair: Jason Fullerton, Alpha Assembly Solutions Co-Chair:	Session INS1 - Inspection for Manufacturing Improvement  Chair: Bill Cardoso, Ph.D., Creative Electron Co-Chair: Eric Moen, Akrometrix	Session LF1 - The AREA Consortium  Chair: Diganta Das, Ph.D., CALCE University of Maryland Co-Chair: TBD
8:00 AM	Fine Line Through Hole Copper Filling in VCP for Next Generation Packaging Daniel Schmidt, Atotech Deutschland GmbH	PCB Surface Finishes & the Cleaning Process - A Compatibility Study Naveen Ravindran, M.S. Ch.E., ZESTRON	A Scanning Chromatic Confocal Microscope for Accurate Off-line Solder Paste Volume Measurement Chandru Periasamy, Ph.D., Intel Corporation	SAC305 Solder Joint Reliability under Bowed Board Loading Lars Bruno, Ericsson AB
8:30 AM	The Next Generation of 2.5D Packaging using a Glass Interposer *Charles Woychik, Ph.D., i3 Electronics	PCBA Component Cleanliness Specifications Limits are Lacking Mark Northrup, IEC Electronics	Revealing the Material Dimension: IBEX MAP Technology Applied to Single-exposure Radiography Tamzin Lafford, Ph.D., IBEX Innovations Ltd.	The Effect of Die Size on the Thermal Fatigue Reliability and Failure Mode of a Chip Array BGA *Richard Coyle, Ph.D., Nokia
9:00 AM	Embedded Power Electronic Modules Realized by PCB Embedding *Lars Boettcher, Fraunhofer IZM Berlin	Localized Ion Chromatography Method Development and Validation *Mike Bixenman, DBA, KYZEN Corporation	The Contribution of High Volume Inspection to Save Driving Peter Hoffrogge, PVA TePla Analytical Systems GmbH	Effect of Process Thermal History on the Microstructure of Copper Pillar SnAg Solder Joints Mohammed Genanu, Binghamton University
9:30 AM	Refreshment Break			
	<b>Advanced Packaging Technology Track</b>	<b>Manufacturing Excellence Track</b>	<b>Inspection Technologies</b>	<b>Lead-Free Symposium</b>
	Session APT7 - Warpage  Chair: *Dale Lee, Plexus Corp. Co-Chair: Andrew Dava, Garmin AT	Session MFX7 - Conformal Coating  Chair: Rakesh Kumar, Ph.D., Specialty Coating Systems Co-Chair: *Jason Keeping, P.Eng, Celestica Inc.	Session INS2 - Counterfeit Electronic Parts and Supply Chain  Chair: Raiyo Aspandiar, Ph.D., Intel Corporation Co-Chair:	Session LF2 - Screen Printing to Optimize Lead-free Processing  Chair: Srinivas Chada, Ph.D., Stryker Co-Chair: *Dave Hillman, Rockwell Collins
10:00 AM	BGA with Controllable Warpage Used to Confirm the Needs of a Low Warpage Specification *Alex Chan, P.E., Nokia	Acrylic Coating Removal without Thermal Application *Eric Camden, Foresite, Inc.	Counterfeit Electronic Components – The Threat, Risk Mitigation Methods, Industry Standards Jason Jowers, Velocity Electronics	Impact of Stencil Foil Type on Solder Paste Transfer Efficiency for Laser Cut SMT Stencils Greg Smith, FCT Assembly, Inc.
10:30 AM	Comparing Shadow Moiré and Digital Fringe Projection Warpage Metrology Techniques Neil Hubble, Akrometrix	The Impact of Conformal Coating on WLCSP Thermal Cycle Performance: Degradation Mechanism and Mitigation Method *Tae-Kyu Lee, Ph.D., Portland State University	X-Ray Inspection Technology - An Application Driven Approach Glen Thomas, Ph.D., Creative Electron	The Importance of Stencil Tension for Robust SMT Printing Processes Mike Burgess, ASM Assembly Systems, LLC
11:00 AM	Assessment of BGA region PCB Warpage in real SMT Environment Haowen Liu, Ph.D., Intel Corporation	Laser Exfoliation Removal of Conformal Coatings from CCA PCB Pad Surfaces *Norman Armendariz, Ph.D., Raytheon Company	Taggants for Counterfeit Avoidance: Durability Testing Under Qualification Conditions Diganta Das, Ph.D., CALCE University of Maryland	Low Temperature Solder Paste Process Advantages Traian C. Cucu, Alpha Assembly Solutions
11:30 AM	Lunch Break			
		<b>HDP Consortium</b>	<b>Inspection Technologies</b>	<b>Lead-Free Symposium</b>
12:00 PM		Chair: Co-Chair:	Session INS3 - Inspection Technologies  Chair: Keith Bryant, SMT Solutions Co-Chair:	Session LF3 - Reliability & Performance of Lead-free Interconnections  Chair: Jean-Paul Clech, Ph.D., EPSI, Inc. Co-Chair: Kola Akinade, Ph.D., Cisco Systems
12:30 PM		Multiple Lamination – Reliability of Stacked Via Structures – A Collaborative Project Bill Birch, PWB Interconnect Solutions Inc.	Supply Chain Maintenance Using Reverse Engineering *Bill Cardoso, Ph.D., Creative Electron, Inc.	Investigation of the Factors Influencing the Performance of Low Temperature Solder Rohit Valooran, Rochester Institute of Technology
1:00 PM		Digital Speckle Correlation for Predicting Failure Prone Structures Bev Christian, Ph.D., HDPUG	Automated Conformal Coating Inspection & Thickness Measurement Hector Fonseca, Nordson Yestech	Reliability Study of Doped Lead-Free Solder Paste Alloys by Thermal Cycling Testing Sharath Sridhar, Auburn University
1:30 PM		Rework of High Density Press Fit Connectors Lars Bruno, Ericsson AB	X-Ray Inspection for PCBA – Challenges and New Developments Jane Feng, Ph.D., Flex	Effect of Processing Variables on the Mechanical Reliability of Pb Free Solder Joints Eric Cotts, Ph.D., Binghamton University
2:00 PM	Refreshment Break			
				<b>Lead-Free Symposium</b>
2:30 PM				Session LF4 - Reading Pb-Free Innovations for High-Reliability Electronics  Chair: Co-Chair:
3:00 PM				Effect of Thermal Treatment on the Microstructure, Properties, and Reliability of Lead-Free Bismuth Containing Solder Alloys Andre Delhaise, Celestica
3:30 PM				Pb-Free Design and Implementation Guidance in High Performance Engineering Design Anthony J. Rafanelli, Ph.D., P.E., Raytheon Integrated Defense Systems
3:30 PM	Conference Concludes			