



# iMAPS New England Symposium & Expo

May 5th, 2015

Holiday Inn Boxborough, MA

**\*\*\* Technical Program Presentations \*\*\***



**Technical Chairs : Tom Green - TJ Green Associates LLC & Dmitry Marchenko - Microsemi DPG**

Presentations	Author / Speaker	Company
<b>RF and Microwave - Innovations and Emerging Technologies - Part I</b>	<b>Tom Terlizzi - Session Co-Chair</b>	<b>Dr. Chandra Gupta - Session Co-Chair</b>
Surface Mount Multi-Layer Ceramic Capacitors for RF Power Applications	John Rogers	Vishay
Contract Manufacturing for the RF Microwave World	Jim Morgan	SemiGen
Nonlinear Effects in Active Phased Array System Performance	Dr. Larry Williams	ANSYS
Designing and Building Microwave Circuits in LTCC	Prakash Bhartia	NATEL
100nm GaN on Si: A Pioneering Technology to Enable High RF Power in Millimeter Wave Bands	Tom Terlizzi / Dr. Fabien Robert	OMMIC
<b>Advanced Technologies for 2.5D/3D Packaging</b>	<b>Maria Durham - Session Co-Chair</b>	<b>Ken Araujo - Session Co-Chair</b>
TSV Impact on Chip Package Interaction for 20nm Silicon	Sukesh Kannan	Global Foundaries
Epoxy Underfill Challenges for Copper (Cu) Pillar Solder Bump Packages	Kevin McLaughlin	Namics
Ultralow Residue (ULR) Semiconductor Grade Fluxes for Flip-Chip and MEMS Applications	Maria Durham	Indium
Void Reduction and Elimination for Reflow & Curing Processes	Tom Nash	Heller Industries
Cost Structure Advantages of 2.5D Integration	Javier DeLaCruz	eSilicon Corp
Glass Enabled Systems Integration	Jeb Flemming	3D Glass Solutions
<b>MEMS and Nano Technology for UAV, Energy, security and Biomedical</b>	<b>Parshant Kumar - Session Co-Chair</b>	<b>Prof Latika Menon - Session Co-Chair</b>
Aerodynamics Flow Testing of MEMS Sensors	Robert D. White	Tufts University
Leak Rate Sensitivity of Small Devices - OLT Technology	Tom Trafford	Norcom Systems Inc.
ZnO and Related Nanostructures for Electronics and Photonics	A F M Anwar	Univ. Connecticut
One-Dimensional Nanostructures for Energy and Electronics Applications	Latika Menon	Menon Laboratories Inc and NEU
Advanced Fault Isolation Techniques for Microelectronics Packaging Yield and Reliability Enhancement	David Vallett	Peak Source Analytical
Fabrication and Application of A Novel Electrochemical Sensor Based on Pt Nanowire Array Coated with Au Nanoparticles	Zhiyang Li	University of Massachusetts Lowell
<b>SMT and Electronics Packaging</b>	<b>Michael Jansen - Session Co-Chair</b>	<b>Tina Barclay - Session Co-Chair</b>
An Overview of IPC Plating Specification: Completions, Revisions and Future Plans	George Milad	Uyemura International Corporation
Solder Fatigue in Tin-Lead and Silver-Tin-Copper Solders	Tina Barclay	TAS Consulting
A Thermally Functionalized Structural Material for Heat Spreading in Handheld Devices	Aaron Vodnick, PhD	Materion
Electromagnetic Compatibility Testing in an All-Electric Vehicle	Lennart E Long and Stephen W.Sauter	LenLong and Associates
The Future of Solder Joint Encapsulant	Wusheng Yin, Ph.D	YINCAE Advanced Materials, LLC
<b>Key Note Lunch Speaker "3D Technology Trends &amp; Key Manufacturing Challenges" Amandine Pizzagalli, Yole Développement</b>		

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<b>Printed Electronics</b>	Craig Armiento - Session Co-Chair	James Zunino - Session Co-Chair
3D Printed Electronics Functionalizing Smart Devices which are Empowering the Industrial Internet of Things	Mike O'Reilly	Optomec, Inc
Flexible, Printed Electronics for Sensing and Energy Storage	Dr. Erik Handy	SI2 Technologies
Reconfigurable Printed phased array antennas	Prof. Alkim Akyurtlu	University of Massachusetts Lowell
Printing Functional Materials	Dr. Scott Slimmer	Harvard University
Additive Manufacturing and Integration of Electronics for Military Systems and Applications	James Zunino	US Army
<b>RF and Microwave - Innovations and Emerging Technologies - Part II</b>	Tom Terlizzi - Session Co-Chair	Dr. Chandra Gupta - Session Co-Chair
Advanced Packaging Concepts For Manufacturing	Dr. Hormazdyar Dalal	Analog Devices Inc.
Ametek Electronic Packaging S-Bend Ceramic Feedthrough	Ken McGillivray	Ametek
Liquid Crystal Polymer Substrates to Enable Advanced RF and Medical Applications	Susan Bagen, PE	Application Development Manager, Micro Systems Technologies, Inc.
Projection Welded Hermetic Ring Seals. At the intersection of physics and electronic packaging technology	Tom Salzer	Hermetic Inc
<b>Cu Wire and Advanced Interconnect Technology</b>	Mike McKeown - Session Co-Chair	Bill Boyce - Session Co-Chair
Critical Barriers Associated with Copper Wire	William (Bud) Crockett Jr	Tanaka
Physical RF Circuit Techniques and Their Implications on Future Power Module and Power Electronic Design	Mike McKeown for Adam Morgan	NCSU
Accelerating Reliability Assessment with Multi-Oven Racks and Sensor Chips for Wire Bonds	M. Mayer	Univ. of Waterloo, ON, Canada
<b>Poster Session</b>	Zhiyong Gu - Session Co-Chair	Dr. Rita Mohanty - Session Co-Chair
Robots, Robots Everywhere	Scott Mazur	Benchmark Electronics
Structural Characterization and Phase Behavior of Sn/In Nanosolders at Elevated Temperatures	Yang Shu	Univ. of Massachusetts Lowell
Magnetically Assembling Nanoscale Metal Network into Phase Change Material—Percolation Threshold Reduction in Paraffin Using Magnetically Assembly of Nanowires	Junwei Su	Univ. of Massachusetts Lowell
Synthesis and Characterization of Novel Magnetic Core and Solder Shell Nanoparticles	Edward Fratto	Univ. of Massachusetts Lowell
A Fiber Optic Ultrasound Transducer for Biomedical Ultrasound Imaging Applications	Nan Wu	Univ. of Massachusetts Lowell
Synthesis and Catalytic Properties of Silica-Cobalt Core-Shell Nanoparticles	Yan Zhang	Univ. of Massachusetts Lowell
Development of Pb-free and Halogen-free Nanosolder-Enabled Solder Pastes	Evan Wernicki	Univ. of Massachusetts Lowell
Deposition Characteristics and Electrical Properties of Silver and CNT Inks Deposited by Aerosol Jet	Peter Lewis	Tufts University and Draper Labs
Printed CNT-Based Transistors on Flexible Substrates Using Aerosol Jet Technology	Jarrood Vaillancourt	University of Massachusetts Lowell
Enhanced Electrochemical Property of Surface Roughed Pt Nanowire Electrocatalyst for Direct Methanol Fuel Cell	Fan Gao	University of Massachusetts Lowell
Hybrid Chip Integration on Flexible Substrates Using Advanced Printing Techniques	Kyle Homan	University of Massachusetts Lowell
Printed Tunable Miniaturized Metamaterials With BST/Polymer Composite Varactor	Mahdi Haghzadeh	University of Massachusetts Lowell