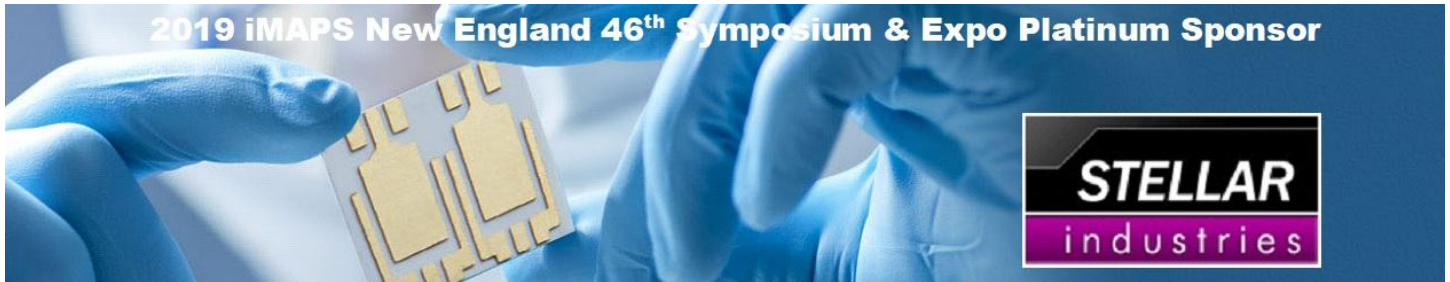


iMAPS New England

**46th Symposium & Expo - Tuesday May 7th, 2019
Boxboro Regency Hotel & Conference Center
Boxborough, Massachusetts**



“Connectivity Rocks”



Preliminary Technical Program

Dmitry Marchenko, Chapter President

Lee Levine & Dave Saums, Symposium Technical Chairs

KEYNOTE ADDRESS

**Speaker: Gerald (Jerry) Charlwood, Director
Lightwave Antenna Business Unit - MACOM**

“General Applications of AESA Radar Technology”

INFORMATION & REGISTRATION

[Boxboro Regency Hotel Reservation Link](#) (select May 6)

iMAPS New England 46th Symposium & Expo
Preliminary Technical Program

Morning Sessions

Session: Advanced Packaging

Chairs: [Frank Muscolino](#), Advanced Assembly Tech & [Richard Hollman](#), ASM Pacific Technology

Thermodynamic Stability Maps: A Powerful Engineering Design Tool

Robert Lacombe – Conferences, LLC

Void-Free Copper Pillar Hybrid Bonding using a Polymer Adhesive and Chemical Mechanical Polishing

Hua Dong - Dupont

Adhesion Considerations in Designing Dielectric Materials for Advanced Packaging Applications

Michaela Connell - Fuji Films

Volume Production Testing of Silicon Photonics Modules

CASE STUDY: Wafer Sort Test Coverage versus Through-Put

John Ritchie - Straits Hi-Rel

An Electrical Fan-Out Wafer Level Packaging Test Vehicle and Update on the Advanced System

John Allgair - Bridg

Session: Printed Electronics

Chairs: [Mary Herndon](#) - Raytheon IDC & [Jim King](#) - King Technologies

Curing Printed Conductive Layers on Low-Temperature Substrates with Intense Pulsed Light

Guinevere Strack - UMass Lowell

*Testing Methodology and Analysis of Fusing Current
of Printed Conductive Inks on Dielectric Substrates*

Elicia Harper - Raytheon

*Barium Strontium Titanate Nanocomposite Dielectric Inks for
Flexible RF and Microwave Electronics Applications*

Oshadha Ranasignha - UMass Lowell

Printed Phase Shifters for Antenna Arrays

Shoket Ganjeheizadeh Rohani - UMass Lowell

Novel Techniques for Additive Manufacturing of Functional Materials

L. Parameswaran¹, Y. Kornbluth², R. Mathews¹, L.M. Racz¹, L.F. Velásquez-García², B. Duncan¹, M. Plaut¹, T. Fedynyshyn¹, S. Uzel³, R. Weeks³, and J.A. Lewis³ - ¹MIT Lincoln Laboratory, ²Massachusetts Institute of Technology, ³Harvard

Session: RF & Microwave I

5G Innovations and Microwave Emerging Technologies

Chairs: [Tom Terlizzi](#) - GM Systems & [Dr. Chandra Gupta](#) - Consultant

100nm GaN on Si Technology for 5G Applications

Charles Edoua - OMMIC

A Reconfigurable S/X-Band 25W GaN Power Amplifier MMIC

Charles F. Campbell, Kevin W. Kobayashi and Cathy C. Lee - Qorvo Infrastructure and Defense Products

Industrialized GaN-on-Silicon – Uniquely Sustainable Technology for 5G Applications

Timothy Boles - MACOM Technology Solutions

Advancement in TPG Graphite Based Technology for Chip-level Thermal Management

Wei Fan*, Liu Xiang, Brian Kozak, Kristi Scherler and Greg Shaffer - Momentive Performance Materials
& Garry Wexler - Henkel Corporation

Think Outside the Cylinder

Richard Howell - Cornell Dubilier/TTI

Session: Interconnects

Chairs: [Lee Levine](#), Process Solutions Consulting & [William Boyce](#) - SMART Microsystems, Elyria, Ohio

The Use of Designed Experiments in Process Development

Lee Levine - Process Solutions Consulting

Zero Outgassing and Flux Residue Compatible Underfill

John Yin*, Mary Liu and Wusheng Yin, Ph.D - Yincae Advanced Materials

Hybrid Die Attach Silver Adhesives

Yumi Shimada – Tanaka

Critical Review of MIL-STD-883 Wirebond Visual Inspection Criteria

Tom Green - TJ Green LLC

Alternative Cu Wires for High Reliability Applications

William (Bud) Crockett – Tanaka

Luncheon Keynote



“General Applications of AESA Radar Technology”

Gerald (Jerry) Charwood, Director Lightwave Antenna Business Unit - MACOM

Afternoon Sessions

Session: Novel Packaging Applications

Chairs: [Jim Ohneck](#) – LTS & [Rick Elbert](#) - Cicor

Advanced Technology Use in Medical Imaging Applications (Sensor manufacturing)

Dan Negrea - AEMtech GmbH

Fully Organic Packaging for Applications with Liquid Exposure

Susan Bagen - MST

Advancements in Microelectronic Packaging for Medical Implants

Carolyn Bjune - Draper

Think Like an Innovator, Act Like an Entrepreneur

Angelique Johnson– MEMStim

Fabrication and Packaging of a MEMS Based Energy Harvester

Yuechen Yan – MIT

Session: RF & Microwave II

5G Innovations and Microwave Emerging Technologies

Chair: [Stephen Bart](#), Invensense & [Richard Morrison](#), Draper

Design Guidelines for Epoxy Preforms

Scott MacKenzie - Bonding Source

Thermoplastic Polyimide (TPI) Adhesive Technology for RF Circuits

Jim Fraivillig - Fraivillig Technologies

Elevated Temperature Impact on Performance of LTCC Dielectrics

Anton Polotai - Ferro Corporation

Reliable Sealing of Metal Packages

Tom Salzer - Hermetic

Session: Photonics & Optoelectronics Packaging

Chairs: [Yi Qian](#), MRSI Systems & [Jin Li](#), Cambridge Technology

The Evolving Face of Integrated Photonics: New Packaging Strategies

Prof. Juejun Hu, Shaoliang Yu, Haijie Zuo, Jerome Michon, Derek Kita, Sarah Geiger,
Qingyang Du, and Tian Gu - MIT

Quantum Dots in Long Wavelength Applications

Prof. Xifeng Qian & Elif Demirbus - UMass Lowell

Full-field Digital Holographic Vibrometry for Characterization of Optoelectronic Packaging and MEMS

Prof. Cosme Furlong, Payam Razavi, Morteza Khaleghi, Ivo Dobrev - WPI

Industrial Automation Sensors (IIOT)

Yongyao Cai - Rockwell Automation

*High-Speed, High-Precision and High-Flexibility, Automated Die-Bonder
for High-Power Laser Diode (HPLD) Packaging*

Rajiv Pandey, Jason Liu, Julius Ortega - MRSI Mycronic

INTERACTIVE POSTER SESSION ON NEXT PAGE

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"CONNECTIVITY ROCKS"

Session: Interactive Dialogue Poster Session



**Chairs: Dipak Sengupta - Analog Devices (ret),
Dave Saums – DS&A & Michael Johnson – MACOM**

***"Evaluation of the Thermal Properties of a Light Emitting Diode(LED) Package
Manufactured Using Po-Kw Packaging Technology"***

Anisha U Walwaikar et. al. - Binghamton U

"Transient Liquid Phase Bonding Technology of Bi-Ni System for High-Temperature Electronics"

Hamid Fallahdoost et. al. - Binghamton U

***"Evaluation of Mechanical Properties and Adhesion of Various Conformal Coatings
Used in Electronic Packaging"***

Preeth Sivakumar et. al - Binghamton U

"Advanced Thermal and Embedded Solutions for Laminate Substrate Designs"

Abimael Reyes - MACOM

"Challenges in Solder Attaching an Air Cavity Device Using Tin Bismuth Solder"

Michael Johnson - MACOM

"The Effect of Solder Paste Volume on Surface Mount Assembly Self-Alignment"

Ke Pan et.al. - Binghamton U

"A Study Of Substrate Models And Its Effect On Package Warpage Prediction"

Vanlai Pham et.al. - Binghamton U

"Time 0 Void Evolution and Effect on Electromigration"

Jiefeng Xu et.al. - Binghamton U

"Characterization of Silicon Die Filleting Process through Dispensing"

Ludovico Cestarollo et.al. - Binghamton U

"Process and Reliability Investigation of SnBi Assembly for BGA Components"

Chongyang Cai et. al. - Binghamton U

"Product Level Design Optimization for 2.5D Package Shock Impact Reliability"

Huayan(Andy) Wang et. al. - Binghamton U

***"A High Spatial Resolution Measure of Trap States and Charge Motion
in Non-Traditional Semiconductors"***

Jason P. Moscatello et. al. - Mt. Holyoke

"Testing and Evaluating Flexural Strength of Stacked Die Configurations"

**Ankita Korad, Daryl Santos, Krishnaswami Srihari - Binghamton U,
& Salvatore Napoli - Analog Devices**

"Liquid Metal Innovations for High-Performance TIMs"

Timothy Jensen - Indium Corporation

"Advances in Thermal Management"

Brian Bruce - Epoxy Technology

***"Design of a Thermal Interface Material Cycling Reliability Test Program
for Semiconductor Test"***

**David L. Saums, DS&A LLC, Tim Jensen & Ron Hunadi, Indium Corporation &
Mohamad Abo Ras, Berliner Nanotest und Design GmbH**

"Ftir Based Identification Method of Underfill Materials and Matching System"

Junbo Yang &, Seungbae Park – SUNY Binghamton

"The Effect of Solder Paste Volume on Chip Resistor Solder Joint Fatigue Life"

**Huayan Wang, Ke Pan, Jonghwan Ha, Chongyang Cai, Jiefeng Xu
& Seungbae Park - SUNY Binghamton**

INFORMATION & REGISTRATION

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