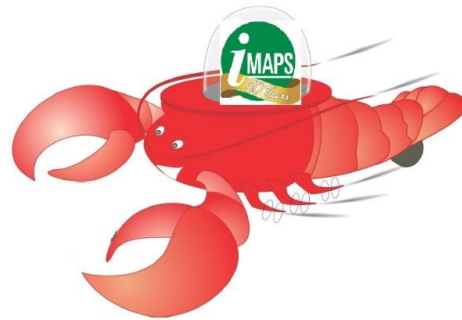


iMAPS New England

45th Symposium & Expo - Tuesday May 1st, 2018
Boxboro Regency Hotel & Conference Center
Boxborough, Massachusetts

“Into the Future Autonomously”

Advance Program



Jon Medernach, Chapter President

Lee Levine & Dave Saums, Symposium Technical Chairs

KEYNOTE ADDRESS

Speaker: Chris Jacobs, Vice President, Analog Devices

“Giving Autonomous Vehicles the Critical Senses of Sight and Feeling”

INFORMATION & REGISTRATION

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Contact Jason Greenspan, jasong@stellarind.com or 508-277-0034

iMAPS New England 45th Symposium & Expo

Technical Program

Morning Sessions

Session: MEMS

Chairs: Stephen Bart - Consultant & Richard Morrison - Draper

Resonant MEMS Acoustic Switch Package with Integral Tuning Helmholtz Cavity

J. Bernstein - Draper

Nanoscale Si₃N₄ Tuning Fork Cavity Optomechanical Transducers

Rui Zhang - Worcester Polytechnic Institute

Electrical Yield and Reliability Issues of Ultra High Density Interposers
and Update on Advanced Integration Program at BRIDG

John Allgair - BRIDG

Development of Nanomaterial-based Smart Patches and Low-cost MEMS Devices

Cihan Yilmaz, PhD - Flex Hybrid Institute

Co-fabrication of micro-coaxial interconnects and substrate junctions
for multi-chip microelectronic systems

Daniela Torres - Draper

Ion Beam Milling for MEMs Applications

James Barrett - Ion Beam Milling

Session: Printed Electronics

Chairs: Dr. Greg Fritz - Draper & Dr. Craig Armiento - UMass Lowell

Application of Metal Additive Manufacturing to Defense Electronics Systems

William Villers - Ten Tech LLC

Printed Electronics Using Magnetohydrodynamic Droplet Jetting
of Molten Aluminum and Copper

Denis R. Cormier & Bruce E. Kahn - RIT

Printed Electronics for Aerospace and Building

Slade R. Culp - UTRC

Microplasma Sputtering for 3D Printing of Metallic Microstructures

Lalitha Parameswaran - MIT Lincoln Laboratory

Low Temperature Processing of High Temperature Conductors

Sara Barron - Draper

Advanced Packaging for Wearables

Venkatadri Vikram - Analog Devices

Session: RF and Microwave - Innovations and Emerging Technologies

Chairs: Tom Terlizzi - GM Systems & Dr. Chandra Gupta - RF & Microwave Solutions

High Temperature RF Multi-layer Ceramic Capacitors (MLCC)

Brian Ward - Vishay

5G - The Road Ahead

DR. Thomas Caneron - Analog Devices

Automotive example of RF immunity testing shows why

Full-wave solvers compliment challenging measurements

Dr. Tracey Vincent - Computer Simulation Technology-Dassault Systems

Where does phase noise come from?

Joe Koebel & Jason Breitbarth - Holzworth Instrumentation

A Heterogeneous Sip Solution for Rf Applications

Justin Borski - i3 Microsystems

Packaging's Role in RF and Micro-Electronics

Keith Donaldson - Intercept Technology & Joe Spitz - Liberty Packaging Company

Key Note Address: Chris Jacobs, Vice President, Analog Devices

"Giving Autonomous Vehicles the Critical Senses of Sight and Feeling"

iMAPS New England 45th Symposium & Expo

Technical Program

Afternoon Sessions

Session: Novel Packaging Applications

Chairs: Caroline Bjune - Draper & Dr Mohammed Wasef - MFR SemiTech

Sensor Technology Integration and Hermetic Module Fabrication
Using Liquid Crystal Polymer

Susan Bagan - Micro Systems Technologies
Electronics for Medical Applications

Jon Knotts - Creative Materials

Gemstone – A Networkable Implantable Wireless Neurostimulator
Carlos Segura - Draper

Thermal Resistance and Effective Thermal Conductivity Measurements
of Thermal Grease Using the Flash Diffusivity Method

Robert Campbell – Netzsch Instruments North America

The Evolution of a Clinical Grade Wearable Vital Signs Monitor and the Role of
Advanced Microelectronic Packaging Techniques to increase functionality
James Ohneck – Exceet

Session: Interconnects

Chairs: Mike McKeown - Hesse Mechatronics & William Boyce - SMART Microsystems

Characterization of Epoxy Cure by Dielectric Analysis

Yanxi Zhang, PhD - Netzsch Instruments North America

Nano Die attach Material used in High Power Electronic Device Package
BeNazir Khan – UMass Lowell

Wire Bonding Process: Understanding Ultrasonic Welding

Lee Levine - Process Solutions Consulting

Multi-Dimensional Ultrasonic Copper Bonding – New Challenges for Tool Design
Paul Eichwald - Paderborn University

Optimizing the Plasma Treatment Process Prior to Conformal Coating
to Eliminate ESD Induced Failures Without Impact on Coating Performance

Trevor Zitek - NanoBio Systems

Session: Photonics & Optoelectronics Packaging

Chairs: Yi Qian - MRSI Systems & Jin Li - Cambridge Technology

Towards an Integrated on-chip Mid-infrared Chemical Sensor

Anuradha Agarwal - Massachusetts Institute of Technology

Integration of III-V Quantum Dot Lasers and their Advanced Applications
Wei Guo - UMass Lowell

Laser Processing in Advanced Packaging

Xiangyang Song et al. - IPG Photonics

Prototype Photonic Integrated Circuits (ProtoPICs):

A Flexible Platform for Hybrid Integration

Dave Kharas - MIT Lincoln Laboratory

The challenges in high volume manufacturing of photonic devices

Yi Qian - MRSI Systems



Special Hands-On Microelectronics Courses
In Conjunction with the New England Symposium
April 30 - Pre Cap Visual Inspection per Mil-Std-883
May 2 - Copper and Gold Wire Bonding
Immediately Before and After The iNE Symposium

iMAPS New England 45th Symposium & Expo

Technical Program

All Day Poster Session

Chairs: Dipak Sengupta – Analog Devices (ret) & Harvey Smith - EMA

Micro-Coaxial Cable Stripping With Electronic-Flame-Off Process
Christian Wells - Draper

Novel Photonic Vibration Sensor for in-situ Data Acquisition
William Laratta - Micatu

Dye-Pull Inexpensive Fast Failure Analysis Technique for Solder Joints
Neeta Agarwal - Benchmark Electronics

Feasibility of Routing Complex Microelectronic Systems With Micro-Coaxial Interconnects
Austin Herrling – Draper

INFORMATION & REGISTRATION

[Boxboro Regency Hotel Reservation Link](#) (use group code IMAP)

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Epoxy Technology
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