
32ND ANNUAL
AI
ELECTRONICS PACKAGING SYMPOSIUM
SMALL SYSTEMS INTEGRATION
SEPTEMBER 8-9, 2021 • VIRTUAL – LIVE


SIP
IEEC
Integrated Electronics
Engineering Center
BINGHAMTON UNIVERSITY


GE


IBM


SIP
CAMM
Center for Advanced
Microelectronics Manufacturing
BINGHAMTON UNIVERSITY


ASE GROUP


EPS
IEEE
ELECTRONICS
PACKAGING
SOCIETY


ELECTRON
DEVICES
SOCIETY

To all Attendees:

Thank you for your interest in the 2021 Electronics Packaging Symposium. We are looking forward to a great event. Due to COVID-19, we will have our first Virtual event in our 31 years of hosting this symposium. We hope that you will come away with learning something and making connections.

We will be hosting this event using two ZOOM meetings. Use the correct ZOOM link for the session you wish to attend.

Day 1 (September 8, 10:00 to 5:00 EST)

Track 1 will cover the opening, keynotes and sessions 1 (Heterogeneous Integration), session 2 (Future of Computing for HPC) and the poster sessions for Day 1.

Track 2 will cover session 3 (mmWave / 5G Packaging) and session 4 (Flexible and Additive Electronics)

Day 2 (September 9, 10:00 to 5:00 EST)

Track 1 will cover the DoD Interests in Advanced Packaging and Integration workshop, Session 5 (Power electronics), Session 6 (Wearable and Flexible Electronics for Medical) and poster session for Day 2.

Track 2 will cover session 7 (Materials for Packaging) and session 8 (Sustainability and Green Electronics)

Day 1

10:00 – 10:30	**Opening Remarks**
10:00 – 10:10	**Bahgat Sammakia**, Vice President for Research, Binghamton University
10:10 – 10:20	**James LeBlanc**, Technology Director, GE Research
10:20 – 10:30	**Mukesh V. Khare**, Vice President, IBM Research
10:30 – 11:50	**Keynote Speakers**
10:30 – 11:10	**Mukesh V. Khare** *(IBM)* – What's Next in Computing
11:10 – 11:50	**Babak Sabi** *(Intel)* – Advanced Packaging Architectures: Opportunities and Challenges
11:50 – 12:00	**Break**

Day 1

12:00 – 01:30	**Session 1: Heterogeneous Integration**
12:00 – 12:30	**William Chen** *(IEEE EPS)* - The HIR Village for the Heterogeneous Future
12:30 – 01:00	**Kamal Sikka** *(IBM)* - Heterogeneous Integration for AI Workloads
01:00 – 01:30	**Alex Wang** *(ASE)* - Semiconductor Package Design Solution for High Density Fan-out Packaging – Chiplets & SiP

Day 1

01:30 – 03:00	**Session 2: Future of Computing for HPC**
01:30 – 02:00	**Nate Cady** *(SUNY CNSE)* - Materials Development and Integration Strategies for Neuromorphic Computing and AI Hardware
02:00 – 02:30	**Michael Hamilton** *(Auburn)* – Superconducting Interconnect Technologies for Cryogenic and Quantum Systems
02:30 – 03:00	**Tom Wassick** *(IBM)* - Semiconductor Packaging Competitive Analysis: An Overview of Key Technologies Used in HPC Applications

Day 1

12:00 – 01:30	**Session 3: mmWave / 5G Packaging**
12:00 – 12:30	**Susan Trulli** *(Raytheon)* - Characterization and Development of Printed Multi-material Interconnects and Passive Elements for Microwave Applications.
12:30 – 01:00	**Manos Tentzeris** *(Georgia Tech)* - Inkjet-/3D-/4D-Printed "Zero-Power" Flexible Wireless Ultrabroadband Modules for IoT, Smart Agriculture and Smart Cities Applications
01:00 – 01:30	**Brandon Prior** *(Prismark Partners)* - 5G and Its Impact on Semiconductor and Packaging Supply Chain

Day 1

01:30 – 03:00	**Session 4: Flexible and Additive Electronics**
01:30 – 02:00	**Michael Dickey** *(NC State)* - Liquid Metals for Soft and Additive Electronics
02:00 – 02:30	**Denis Cormier** *(RIT)* - Printed Electronics Via On-Demand Jetting of Liquid Metal Droplets
02:30 – 03:00	**Jarrid Wittkopf** *(HP Labs)*- HP 3D Printing: Metal Jet Printing and 3D Printed Electronics
03:00 – 05:00	**Poster Session**

DAY 2

10:00 – 11:50	**DoD Interests in Advanced Packaging and Integration**
	Carl McCants *(DARPA, ERI)* - ERI Briefing
	Darren Crum *(NSWC Crane Division)* - State-Of-The-Art Heterogeneous Integrated Packaging (SHIP) Program
	Mike Fanto *(Griffis AF Base)* - Quantum Computing and photonic packaging needs
	Eric Forsythe *(CCDC-ARL WMRD)* - Emerging Electronic Manufacturing Programs through public-private partnership
	Roger Smith *(NSWC Crane Division)* - Interconnect Technologies (Printed Circuit Boards) required to support Microelectronics Packaging in DoD
11:20 – 11:50	**Panel Discussion**
11:50 – 12:00	**Break**

DAY 2

12:00 – 01:30	**Session 5: Power Electronics**
12:00 – 12:30	**Ahmed Elasser** *(GE Research)* - Energy Storage: The Next Big Thing – 200 years in the making
12:30 – 01:00	**Roger Brewer** *(Lockheed Martin)* - Capacitors for Energy Storage and as a companion to Wide Band Gap Power Electronics
01:00 – 01:30	**Doug Hopkins** *(NC State)* - Ceramic-Epoxy Integrated Substrate Structures for E-Field Profiling in Ultra Dense Power

DAY 2

01:30 – 03:00	**Session 6: Wearable and Flexible Electronics for Medical**
01:30 – 02:00	**Lucy Dunne** *(U Minnesota)*- Traditional and Fiber-Based Components: Challenges and Opportunities for E-Textile Garments
02:00 – 02:30	**Christine Kallmeyer** *(Fraunhofer IZM)* - Technologies and Applications for Wearable e-Textiles
02:30 – 03:00	**Matti Mäntysalo** *(Tampere University of Technology)* - Printed conformable electronics for body-worn sensors and systems

DAY 2

12:00 – 01:30	**Session 7: Materials for Packaging**
12:00 – 12:30	**Shenqiang Ren** *(U Buffalo)*- High-Temp Cu Ink Material and All-Printed Conformal Electronics
12:30 – 01:00	**Eric Cotts** *(Binghamton U)*- Examination of Electromigration Effects in Sn-Bi Based Solder Joints
01:00 – 01:30	**Cheng-Gang Zhaung** *(Corning)* - Thin, Flexible Alumina Ribbon Ceramic and its Application in 5G mmWave Filter

DAY 2

01:30 – 03:00	**Session 8: Sustainability and Green Electronics**
01:30 – 02:00	**Mathilde Billaud** *(Fraunhofer IZM)* - Economic and environmental perspectives on Panel Level Packaging
02:00 – 02:30	**Marek Kościelski** *(Łukasiewicz Research Network – Tele and Radio Research Institute ITR)* - Elements of Sustainable Development of Electronics Products
02:30 – 03:00	**Seokheun Choi** *(Binghamton U)* - Papertronics for Internet of Disposable Things
03:00 – 05:00	**Poster Session**