THE WORLD COMES HERE.

TMS2023

152nd Annual Meeting & Exhibition

MARCH 19–23, 2023
SAN DIEGO CONVENTION CENTER &
HILTON SAN DIEGO BAYFRONT
SAN DIEGO, CALIFORNIA, USA
#TMSAnnualMeeting

REGISTER FOR A WORKSHOP OR SHORT COURSE AT TMS2023

Sign up for a professional development event when you register for TMS2023 or add it to an existing registration.

Lead-Free Solder and Interconnect Workshop

Date: Sunday, March 19, 2023
Time: 8:00 a.m. to 5:00 p.m.

This annual workshop provides the latest development and research studies on interconnect materials and electronic packaging technologies. Due to the miniaturization and multi-functional trends for electronic packages, the key materials used in different levels of packaging have dramatically changed or experienced severe service conditions. Three-dimensional (3D) and 2.5D interposer-related technology show a fast trend in the industry looking for more fundamental mechanisms to be explored. In addition to the 3D technology in multi-stacking packages and interconnects, new methodologies like additive manufacturing with embedded interconnects are new areas for further research and development. But with these new technologies, researchers have agreed that fundamental studies are needed to go further, from a materials perspective, to improve the service capability of the new materials and assemblies. This workshop will address current R&D in packaging materials and processes, including lead-free solders, alternative interconnects, conductive adhesives, epoxy, substrates, 3D packaging, wafer level packaging, quality, reliability, and failure analysis. Topics to be covered include:

- Packaging materials and processes for next-generation packages, e.g., 3D packaging, wafer-level packaging, photonic packaging, Internet of Things, flexible electronics, wire bonding, automotive, and power electronics.
- Interconnects for packages, e.g., lead-free solder, micro bumps, through-silicon-vias, direct copper to copper bonding, wire bonding, conductive adhesive, optoelectronic interconnects, transient liquid phase bonding, sintered nano-powder joints, polymer core solder balls and alternative interconnect materials at chip and package levels.
- Additive manufacturing and 3D printing for electronics
- Other packaging materials e.g., epoxy, molding compounds, epoxy flux, thermal interface material (TIM), substrate materials and process.
- Quality, reliability, and failure analysis for next generation packages.
- Continuing challenges in implementing lead-free solders for interconnect, plating and TIM applications
- Developments in high-temperature lead-free solders and associated interconnects for automotive and power electronics
- Developments in low-temperature lead-free solder alloys and fine pitch solder joints
- Electromigration, thermomigration, stress-migration and mechanical effects
- Whisker growth in tin, tin-based alloys, and other metallic systems
- Advanced characterization methods as applied to interconnect technology
- Fundamental materials behavior including phase transformations, computational thermodynamics, solidification, microstructure evolution, corrosion, mechanical, thermal, and electrical properties of solders and intermetallic compounds

INSTRUCTORS

Tae-Kyu Lee, Cisco
Albert Wu, National Central University
Nilesh Badwe, Intel
Kazuhiro Nogita, University of Queensland

REGISTRATION RATES

Registering As	Advance[a]	Standard[b]
Member	$150	$200
Nonmember	$200	$250
Student Member	$50	$75
Student Nonmember	$80	$105

[a]*Advance Registration Rate (On or Before January 31)*
[b]*Standard Registration Rate (After January 31)*

Register by January 31 for the best rates!

Scan QR code or visit
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