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ANAHEIM CONVENTION CENTER & ANAHEIM MARRIOTT
ANAHEIM, CALIFORNIA, USA
#TMSAnnualMeeting

SUBMIT AN ABSTRACT FOR THE FOLLOWING TMS2022 SYMPOSIUM:

ELECTRONIC MATERIALS

Electronic Packaging and Interconnections

Continuing advances in microelectronic, optoelectronic, and nanoelectronic devices require new materials and technologies to meet the increasing electrical, thermal, mechanical, reliability, performance, and environmental demands placed on interconnects and packaging at all levels. This symposium will address current research in packaging materials and processes, including Pb-free and low melting temperature solders, microstructure-design, alternative interconnects, conductive adhesive, epoxy, 3D packaging and heterogeneous integration, wafer level packaging, interconnect reliability, and root cause failure analysis. Topics of interest include, but are not limited to:

- Advanced packaging materials and processes, e.g., 3D packaging and heterogeneous integration, wafer level packaging, photonic packaging, Internet of Things (IoT), flexible electronics, wire bonding and connectors, automotive and power electronics
- Interconnects for packages, e.g., Pb-free solder, micro bumps, through-silicon-vias (TSVs), direct Cu to Cu bonding, conductive adhesive, transient liquid phase bonding, sintered nano powder joints, optoelectronic interconnects, Cu and Ag paste sintering and alternative interconnect materials at chip and package levels
- Additive manufacturing and 3D printing for electronics industry
- Other packaging materials, e.g., epoxy, molding compounds, epoxy flux, thermal interface material (TIM), and substrate materials - Reliability and failure analysis for next generation packages
- Continuing challenges in implementing Pb-free solders for interconnect, low melting temperature solder alloys and solder interconnect materials for extreme environment application
- Developments in next-generation solders for improved reliability for space exploration and aerospace application
- Developments in solder materials and associated interconnects for automotive and power electronics
- Developments in high temperature and cryogenic temperature solder materials and associated interconnects
- Electromigration, thermo-migration, stress-migration, and mechanical effects
- Whisker growth in Sn, Sn-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

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