Foreword

Advances in microelectronic device design continue to 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. Intensive studies have been carried out on lead-free soldering materials, electronic interconnects, and packaging technologies. More effort has also been applied to the issue of the reliability of solder joints.

The symposium “Emerging Interconnect and Packaging Technologies” was a comprehensive symposium at the 137th TMS Annual Meeting and Exhibition, covering all the hot topics in the area of interconnect materials and manufacturing, lead-free electronic solders, and reliability of solder joints. It provided a good opportunity for industrial experts and academic scholars from around the world to share their new findings and interact with each other. Fifty-five presentations were given at this 3-day symposium. The presentations and discussion were mainly focused on advanced electronic interconnects, interfacial reactions, phase transformations, electromigration in solder joints, tin whisker formation, and microstructural and mechanical characterization of solders and solder joints.

This special issue contains selected papers presented at the TMS 2008 Annual Meeting and Exhibition held in New Orleans, LA. The peer-reviewed papers reflect several important aspects, including advances in packaging technologies, fundamental studies of materials behavior, and the characterization and prediction of reliability in solder joints and electronic packages. We appreciate the diligent work of all the authors and the reviewers. We especially thank Professor Suzanne Mohny, the editor of JEM, for her assistance with the review and publication process.

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