3D Systems Packaging Research Center

IEEE Advancing Technology

IEEE Glass Packaging Workshop

May 23-24, 2023; Georgia Institute of Technology, Atlanta, GA
https://sites.gatech.edu/ieee-glass-packaging-workshop/

The **Glass Packaging Workshop 2023 (GPW 2023)**, co-sponsored by IEEE, brings together researchers, designers, developers, users, and supply-chain manufacturers to share the latest advances in glass packaging.

Glass panel packaging promises to address a variety of strategic needs: a) In HPC for higher performance, lower cost, and improved reliability; b) In automotive for improved high temperature reliability; c) In wireless for 6G for integrated antennas; d) In consumer electronics for ultra-miniaturization and lower cost. To enable all these, a global manufacturing ecosystem needs to be set up from R&D to manufacturing to enable the above products and applications.

The most leading-edge packaging is currently wafer-based Si BEOL packaging. It has been in use for more than a decade. Wafer-based Silicon packaging has massive manufacturing infrastructure and provides the highest IO density but is limited by high cost for emerging large packages. In addition, it requires four levels of packaging. It is expected, however, to be improved further with hybrid bonding and a combination of 2.5 and 3D architectures.

Glass packaging has shown promise to address these limitations, based on a decade-long R&D at Georgia Tech and its industry partners. These R&D activities led to the demonstration of industry's 1st panel scalable RDL to 1 micron. However, panel manufacturing infrastructure doesn't fully exist. Design and architectures have not been explored to their full potential. Manufacturing and yield problems are expected with 1-2 µm RDL. Potential applications have not been explored.

General Chair: Prof. Rao Tummala
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SESSIONS	SESSION CHAIRS
Plenary Session	Venky Sundaram (3D System Scaling), Siddharth Ravichandran (Chipletz)
Electrical & Mechanical Design of Glass Substrates	Siddharth Ravichandran (Chipletz), Suresh Sitaraman (GA Tech)
Glass panel: Core & TGV Technologies	Martin Letz (Schott), Jobert van Eisden (Atotech)
Panel-scale RDL Materials & Processes	Habib Hichri (Ajinomoto USA), Venky Sundaram (3D System Scaling)
Chip- & Board-level Assembly	Vanessa Smet (GA Tech), Steffen Kroehnert (ESPAT)
Co-packaged Optics on Glass	Junro Yoon (Corning), Vivek Raghunathan (Xscape Photonics)
Glass Panel Manufacturing Infrastructure	Sung Jin Kim (Absolics), Kuldip Johal (Atotech)
Panel: Glass Panel History & Market Status	Jan Vardaman (TechSearch International)