*2024 IEEE Electronic Components and Technology Conference to Spotlight Cutting-Edge Microelectronics Packaging Technologies; Photonic Devices, Heterogeneous Integration are Among Key Topics*

DENVER, CO (April 30, 2024) – The world's leading forum for unveiling, discussing and exhibiting the latest advancements in microelectronics packaging and component science and technology is the IEEE Electronic Components and Technology Conference (ECTC). The 74th annual ECTC will take place May 28-31, 2024 at Denver's Gaylord Rockies Resort & Convention Center, with more than 1,500 scientists, engineers and businesspeople from more than 20 countries expected to attend.

ECTC 2024 offers a technical program of more than 375 technical papers in 36 oral and five interactive sessions; 10 special topic sessions; numerous professional development opportunities; a student poster session; and 115+ exhibitors in the ECTC Technology Corner exhibit area.

The range of topics to be covered at ECTC 2024 encompasses heterogeneous integration, photonics, components, materials, assembly, reliability, modeling, interconnect design and technology, 2.5D/3D integration technologies, direct/hybrid bonding, device/system packaging, wafer-level packaging, optoelectronics and more.

"Transistor scaling has become much more challenging and costly, and so advanced packaging and component technologies have become critical enablers of progress in high-performance computing, advanced smart phones, the Internet of Things (IoT), 5G/6G communications, quantum computing, and more," said Michael Mayer, 74th ECTC Program Chair (Professor at the University of Waterloo). "This year brings the largest edition of ECTC to date, with papers covering a broad range of related topics, and with a major focus on highly promising technologies that are enabling heterogeneous integration and photonics."

Here are details of the 2024 IEEE Electronic Components and Technology Conference:

**Keynote Talk: Wednesday, May 29**

- *Petascale Photonic Chip Connectivity for Energy-Efficient AI Computing*, by Prof. Keren Bergman, Columbia University.

High-performance data centers are increasingly bottlenecked by the energy and communications costs of interconnecting numerous compute and memory resources, with a nearly two-orders-of-magnitude gap between on-chip, intra-socket communication capacities and the capacities of the links which transport data over longer distances. Integrated silicon photonics offer the opportunity to deliver high off-chip communication bandwidth densities with low power consumption. To do this, deeply embedding the packaging of photonics with compute and memory is critical. This talk will cover these packaging challenges, as well as approaches for leveraging dense, scalable wavelength-division multiplexing (DWDM) photonic I/O for petabit/s chip escape bandwidths with sub-picojoule/bit energy consumption.

**Special Sessions: Tuesday, May 28 – Friday, May 31**
The keynote talk is one of 10 Special Sessions at the 2024 ECTC, which feature industry experts discussing technology status and roadmaps in key areas of interest. In addition to the keynote talk, the ECTC Special Sessions are:

- *Exploring the Impact of Industry-Government Co-Investments for the Advanced Electronics Sector in North America, Asia and Europe*
- *Challenges and Opportunities in Advancing Metrology for Next-Generation Microelectronics*
- *Efficient and Innovative Thermal Management for Power-Hungry AI/ ML Applications: Challenges and Opportunities*
- *RF Packaging for Communication and Sensing Applications above 100 GHz – Technologies, Design Challenges and Emerging Solutions*
- *Young Professionals Network Panel*
- *IEEE EPS Seminar: Challenges of Chiplets on Large Substrates*
- *ECTC/ITherm Diversity Panel and Reception: Best Practices to Attract, Hire and Retain a Diverse Workforce*
- *ECTC Plenary: The Future of Semiconductor Industry. Emerging Start-ups and Technologies for Advanced Packaging*
- *IEEE EPS President's Panel: Challenges in Education and Workforce Development in the New Chips Economy*

**Professional Development Courses: Tuesday, May 28**
In addition to the technical program, ECTC 2024 offers 16 CEU (continuing education credit)-approved Professional Development Courses, in conjunction with the co-located IEEE ITherm Conference. The ITherm conference focuses on thermal and thermomechanical issues in electronic systems.

**Further information about ECTC 2024**
For registration and other information, visit https://www.ectc.net/index.cfm

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The IEEE's Electronics Packaging Society (EPS) sponsors the ECTC conference. EPS is the leading international forum for scientists and engineers engaged in research, design and development of revolutionary advances in microsystems packaging and manufacturing. Its areas

of interest encompass all aspects of packaging and integration of electrical, electronic, optoelectronic, biological, micromechanical and sensing components.