Sponsors: iSTAR WSTC EVG

Wednesday, August 5th, 2026, 13:00-16:15

Special Session: International Hybrid Bonding Technology Conference

Chair: Dr. Qidong WANG, Institute of Microelectronics of Chinese Academy of Sciences, China

Dr. Kenny YE, Senior Vice President of Piotech, Inc.

13:00-13:05	Welcome Address	
13:05-13:30	Low Distortion Wafer Bonding using programmable wafer deflection for advanced semiconductor manufacturing	***Dr. Li GONG**, General Manager, SUSS MicroTec (Shanghai) LTD*
13:30-13:55	Trends in Bonding Technology Driven by the AI Era	***Mr. Chaoqun REN**, General manager，Wisdom SemiTeC (Jiangsu) Technology Co.,Ltd.*
13:55-14:20	Technology & Fusion, enabling AI innovation	***Mr. Norito Matsumura**, Senior Director, Tokyo Electron*
14:20-14:35	*Break*	
14:35-15:00	Plasma Activation in the Downstream Region of a Surface-Wave-Excited Plasma for Hybrid Bonding	***Dr. Yasuhiro Morikawa**, Technology Manager (Global Technology Sensing Strategy), ULVAC, Inc.*
15:00-15:25	The Next 3D Frontier: Equipment Perspectives on D2W Hybrid Bonding Challenges	***Mr. Jonathan Abdilla**, Director Technology，Besi*
15:25-15:50	Fusion & Hybrid Bonding: Driving Application Performance, Power and Cost by Mixing and Matching Semiconductor Technologies	***Mr.Thomas Pleschke**, Business Development，EV Group (EVG)*
15:50-16:15	Pushing the limit of bonding accuracy and throughput	***Mr. Benz ZHAO**, CTO of Guangdong iStar Technology Equipment Co., Ltd.(iSTAR)*
20:30-22:30	EPS Cup·Football Game	

Introduction of Speakers

Chair: Qidong WANG, Director of Packaging and Integration R&D Center at the Institute of Microelectronics of the Chinese Academy of Sciences

BIO: Dr. WANG Qidong received his B.S. degree in Electronics Engineering from Southeast University in Nanjing, MSC degree from Nottingham University in UK, Ph.D degree in Microelectronics and Solid-State Electronics from University of Chinese Academy of Sciences. He worked in Varian Lab, Stanford University as a Visiting Scholar from 2015 to 2016. He currently serves as the Director of Packaging and Integration R&D Center in the Institute of Microelectronics of the Chinese Academy of Sciences. Dr. Wang has served ICEPT as session chair nearly 10 years, as technical chair since 2023-present.

Chair: Kenny YE, Senior Vice President of Piotech, Inc.

BIO: Kenny Ye, received his Ph.D. degree in Materials Science and Engineering from University of California at Berkeley. He has worked for semiconductor related companies in Silicon Valley for over 20 years. He joined Piotech, Inc. in 2017, now serving as Senior Vice President.

Speech Title: **Low Distortion Wafer Bonding using programmable wafer deflection for advanced semiconductor manufacturing**

Dr. Li GONG, General Manager of SUSS MicroTec (Shanghai) LTD

BIO: Dr. L. Gong has studied material sciences at the university Erlangen - Nuernberg Germany. He has joint Fraunhofer Institute for Integrated Circiuts in Erlangen in 1987. His main research fields were semiconductor process technologies and measurement techniques. He has published over 20 scientific papers in magazines and international conferences. He has received the ph. D from the university Erlangen – Nuernberg in 1993. After many years teaching and research work, he joint Suss MicroTec in 1994. Since 2001 he is the general manager of Suss MicroTec (Shanghai) LTD. Dr. Gong is experienced in the field of semiconductor processes and equipment.

Speech Title: Trends in Bonding Technology Driven by the AI Era

Mr. Chaoqun REN, General Manager of Wisdom SemiTeC (jiangsu) Technology Co.,Ltd.

Abstract: AI applications are driving the performance bottleneck of chips from process scaling toward interconnect delay and power consumption, positioning bonding technology as an increasingly definitive path in the post-Moore era. Currently, bonding technology has permeated applications such as CMOS image sensor, 3D NAND, and AI Chiplet integration, while demonstrating significant potential across logic, memory, packaging, optical communications, and display applications. This presentation will provide a comprehensive overview of the latest advances in bonding technology application, covering both wafer-to-wafer and die-to-wafer bonding techniques, with a focus on emerging application scenarios. Furthermore, bonding technology still faces multifaceted long-term challenges. This presentation will summarize these technical challenges, review relevant fundamental research progress, and explore potential future solutions.

BIO: Mr. Ren Chaoqun has deep dived in the semiconductor equipment manufacturing sector, focusing on the research and development of core technologies of semiconductor equipment, and has accumulated rich experience in research, design, development, and management.

Currently, he serves as CEO of Wisdom SemiTeC (Jiangsu) Technology Co., Ltd., fully in charge of the company's operation and the formulation and implementation of its technical strategy. He has led the research and development of the company's core hybrid bonding products and continuously explores and innovates in the uncharted territory of semiconductor technology.

Speech Title: Technology & Fusion, enabling AI innovation

Mr. Norito Matsumura, Senior Director of Tokyo Electron

Abstract: The need for die-to-wafer (D2W) and wafer-to-wafer (W2W) hybrid bonding to support the Advanced Packaging (AP) technology essential for both High Performance Computing and Artificial Intelligence applications is well-established. In turn, AP and its associated process integration flows are enabled by an overall ecosystem and supply chain, a critical component of which is state-of-the art, intelligent hybrid bonding tools. These tools must meet the technical performance, economic (cost of ownership), and timeline requirements of AP end-customers. To achieve these requirements, the path from concept and early development to a production-worthy tool, especially with ever shorter customer timelines, is very challenging. In combination with judicious design, well-defined characterization experiments, and systematic data collection for repeatability/ trends/ validation, fundamental understanding can provide invaluable guidance into the design and development of the module-level chambers, platforms, and processes. Diagnostic testing and physics-based computer simulation play a vital role in this fundamental understanding. For hybrid bonding interface quality is paramount, requiring optimization of process integration and surface preparation steps. Furthermore, to guide development and validate the process/hardware capabilities, process integration engineering teams must design and fabricate effective hybrid bonding test vehicles. In this presentation, we will explore the fundamental to volume manufacturing tools, and introduce Tokyo Electron's solutions.

BIO: Mr. Norito Matsumura is senior director of Tokyo Electron Limited(TEL), responsible for marketing in Global Sales Division.He has worked over 35 years in TEL and more than 30 years' experience in Semiconductor industry as marketing professional.. Successfully launched new type of products in Dry etch, Wet Clean, Dry Clean, Spin-on Dielectric deposition, contributed to advanced customer's technology innovations in worldwide.

In 2017, he moved to Corporate Division as Account Technology, developed new marketing programs for leading edge customers, contributed for No.1 position. In 2019-2021, he acted vice president of technical marketing of

Tokyo Electron (Shanghai), supported several emerging customer's startup & business success in China. After 2022, he worked as advisory staff for SVP in Backend Process Business division.

Speech Title: Plasma Activation in the Downstream Region of a Surface-Wave-Excited Plasma for Hybrid Bonding

Dr. Yasuhiro Morikawa, Manager, ULVAC, Inc.

BIO: Dr. Yasuhiro Morikawa joined ULVAC in 1997. He earned his master's in electrical engineering from the University of Toyo in 1997. And he received a Dr. in Material Engineering from the University of Tokyo in 2003. He is currently working as a manager of institute of advanced technology at ULVAC in Shizuoka, Japan. His main interests are development of plasma technologies and equipment for the advanced packaging of integrate of semiconductor chip. He is a member of the Japan Society of Applied Physics (JSAP) and the Japan Institute of Electronics Packaging (JIEP). And program committee of international symposium on dry process (DPS), and General chair of technical program committee of international conference on electronics packaging 2026 (ICEP2026).

Speech Title: The Next 3D Frontier: Equipment Perspectives on D2W Hybrid Bonding Challenges

Mr. Jonathan Abdilla, Director Technology, Besi

Abstract: The speech will discuss the market trends in D2W hybrid bonding and highlight its importance and relevance to advanced packaging and the ongoing trend for higher processing power, higher data transfer speeds and lower power consumption, all while attempting to reduce footprint. It will also highlight some key equipment factors necessary for successful D2W Hybrid bonding equipment and possible solutions to some process challenges.

Speaker's Biography: Mr. Jonathan has a degree in Mechanical Engineering and an Executive MBA from the University of Malta and a diploma in Computing Information Systems from the University of London. He has over 20 years of packaging experience in the semiconductor industry. Before joining BESI, Jonathan worked for STMicroelectronics as production process specialist. He then joined BESI taking on roles of Manager for Process Development, Product Manager for Hybrid Bonding and currently Director in the CTO office. He resides on several technical committees for semiconductor packaging conferences.

Speech Title: Fusion & Hybrid Bonding: Driving Application Performance, Power and Cost by Mixing and Matching Semiconductor Technologies

Mr.Thomas Pleschke, Business Development, EV Group (EVG)

Abstract: As traditional semiconductor scaling has been coming to an end, bonding technologies on wafer but also die level have become a cornerstone and key ingredient for keeping Moore’s law alive. Initially rooted in MEMS applications, fusion and hybrid bonding have seen tremendous advancements over the past decades and meanwhile are widely deployed in high-volume manufacturing for applications such as image sensors or advanced memories.

The presentation will focus on the aspect of bonding as a “More than Moore” technology, meanwhile also increasingly enabling “More Moore”. Attendees will be provided with an overview of related application areas. Next to chip-let architectures also co-packaged optics (CPO) is moving into the spotlight, driven by an AI and data center hype. A comprehensive overview of wafer and die bonding approaches enabling heterogeneous photonic integration, is presented. These include plasma-activated fusion bonding, oxide-free direct bonding, as well as hybrid bonding techniques. While former support the integration of diverse materials, including III－V semiconductors, and thin-film lithium niobate onto silicon photonics platforms, latter serve a tightly coupled integration of photonic with electronic integrated circuits (PICs & EICs) by ultra-short interconnects with high density and low parasitics, as essential for CPO architectures.

Speaker's Biography: Mr.Thomas Pleschke drives Business Development for Heterogeneous 3D Integration and Packaging applications at EV Group, in evaluating global market trends, scouting new technologies and developing growth opportunities for EVG's business.

He holds a Master of Science in Engineering degree in Mechatronics as well as a Master’s of Law and Business from Johannes Kepler University Linz and brings along more than 20 years of experience in the international semiconductor industry from R&D to business and strategy development.

Speech Title:Pushing the limit of bonding accuracy and throughput

Mr.Benz ZHAO, CTO, Guangdong iStar Technology Equipment Co., Ltd.(iSTAR)

Abstract: iStar introduce iHCB3000 hybrid bonding equipment's innovative architecture to improve bonding accuracy and throughput, and demonstration of initial testing results.

Outline: Challenge on the chip to wafer hybrid bonding equipment by advanced chip-let process
iStar’s innovative architecture of hybrid c2w bonding equipment
Demonstration of initial testing results

Who Should Attend: Audiences interested in innovative technologies for high-performance hybrid chip bonding equipment

Speaker's Biography: Mr. Zhao Bin has nearly 20 years of experience in the field of semiconductor equipment research and development. He specializes in system architecture design, system analysis, design of innovative solutions, and solve complex cross-disciplinary technical issues. He has in-depth understandings on the systems architecture and process technology of lithography equipment, chip and wafer bonding equipment. At iStar, he focuses on the innovative technology development of high-end semiconductor process equipment.