

HIR Speaker



Loke Yuen, Wong Ph.D.

Senior Director, Head of Hybrid Bonding Interconnect Key Product Unit, Semiconductor Products Group, Applied Materials

Biography

Loke is the Head of Hybrid Bonding Interconnect Key Product Unit.

He began his career at Applied Materials as a New College Graduate, working as a Process Integration Engineer in Advanced Packaging focusing on Through-Silicon Via and Fan-Out Wafer Level Packaging. Over the years, he has built a diverse background with experiences in Global Product Management, Program Management, Strategic Business Development and Engineering Management.

In this role, he leads a cross-functional global team responsible for driving the strategy, process and engineering development leading to productization of key technologies in hybrid bonding. Loke received his B.S. and Ph.D. degree in Physics from the National University of Singapore, has co-authored journal articles, and holds multiple patents.



Prof. Amr S. Helmy

Professor, Edward S. Rogers Sr. Department of Electrical and Computer Engineering

Biography

Amr S. Helmy is a Professor in the department of electrical and computer engineering at the University of Toronto. Prior to his academic career, Amr held a position at Agilent Technologies - UK, between 2000 and 2004. At Agilent his responsibilities included developing lasers and monolithically integrated optoelectronic circuits. He received his Ph.D. and M.Sc. from the University of Glasgow with a focus on photonic integration technologies, in 1999 and 1995 respectively.

His research interests include photonic device physics, with emphasis on plasmonic nanostructures, nonlinear and quantum photonics addressing applications in information processing / sensing, and data communications. Amr is a Fellow of Optica and IEEE.



Dr. Gamal Refai-Ahmed

Senior Fellow, AMD

Biography

Dr. Gamal Refai-Ahmed is a world-renowned technical executive whose contributions to thermal management, advanced packaging technologies, and high-performance computing have significantly shaped industries including telecommunications, automotive, AI, and HPC. His pioneering work has established him as a leader in 3D heterogeneous integration, silicon and power architecture, and innovative cooling technologies, driving next-generation advancements in data centers and AI-enabled systems.

Dr. Refai-Ahmed's professional achievements are marked by numerous accolades, including election to the National Academy of Engineering (NAE) in 2024 and receipt of the Distinguished Alumni Medal for Professional Achievement from the University of Waterloo. He is a Xilinx Fellow, a title recognizing the pinnacle of technical leadership, and an IEEE Fellow, highlighting his exceptional contributions to engineering and technology. Other honors include the prestigious Presidential Medal for Innovation Leadership from Binghamton University, the IEEE Canada R.H. Tanner Industrial Leadership Silver Medal, and ASME's Calvin Lecture Award for advancing engineering best practices globally. He is also a recipient of the Mahboob Khan Award from SRC and the Excellence in Thermal Management Award from ASME, cementing his legacy as a transformational innovator.



Nelson Fan

Vice President, AP Product Portfolio Management & Business Development
ASMPT SEMI

Biography

Nelson Fan, Vice President, Advanced Packaging Product Portfolio Management and Business Development of ASMPT SEMI, is a distinguished leader and innovator with over three decades of impactful contributions to the semiconductor industry. His career is characterized by a unique blend of entrepreneurial vision, deep technical expertise, and a proven track record in senior executive management.

Currently a key figure at ASMPT Limited, Nelson brought with him a wealth of experience from his role as a Co-Founder of a specialized thermal cooling solution company, where he was instrumental in driving innovation in a critical area of semiconductor performance and reliability.

Prior to his entrepreneurial venture, he built a substantial foundation in semiconductor packaging, assembly, and test (OSAT) through multiple senior management roles at ASAT in Hong Kong. Throughout his career, Nelson has consistently demonstrated a capacity for innovation, which is evidenced by his formidable intellectual property portfolio. He is a named inventor on more than 40 U.S. patents, covering advanced semiconductor packaging technologies that have helped shape the industry.

Nelson holds a Bachelor of Science in Electrical Engineering from the University of Colorado at Colorado Springs, USA. His extensive experience, from hands-on engineering and invention to executive leadership and entrepreneurship, makes him a respected authority in the global semiconductor landscape.



Dr. Surya Bhattacharya

Director and Head of System-in-Package at A*STAR Institute of Microelectronics (IME)

Biography

Dr. Surya Bhattacharya (Senior Member IEEE) is Director and Head of System-in-Package at A*STAR Institute of Microelectronics (IME), Singapore. Over the past 30 years, he has worked on CMOS scaling and Package Scaling at fabless companies, integrated device manufacturer (IDM), and leading Research Institute. At the Institute of Microelectronics, Singapore, Dr. Bhattacharya leads the advanced packaging team to initiate and execute consortia projects to address industry challenges in advanced heterogeneous integration for system scaling. Prior to joining IME, he served as Director of Foundry Engineering at Qualcomm, where he executed technology and manufacturing ramps across multiple foundries around the world. Prior to Qualcomm, he was a Principal Foundry Engineer at Broadcom Corporation. He started his career at Rockwell Semiconductor Systems, Newport Beach, California, where he was Senior Manager for CMOS technology development. Surya has a PhD in Electrical Engineering from the University of Texas at Austin, and B.Tech in Electrical Engineering from the Indian Institute of Technology, Madras.