



25th International Conference on Electronic Packaging Technology

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<http://www.icept.org>

Speech subject: **Advanced 3D Packaging for AI Application**

Speech leader: *Yu-Po Wang—Vice President, R&D Center, Siliconware Precision Industries Co., Ltd.*

Speech Description/Objective:

The surge in generative AI and large language models (LLMs) has created unprecedented demands on computational power, memory bandwidth and capacity, driving packaging innovation for AI and high-performance computing (HPC) applications. This presentation delves into the advanced packaging for chiplet technologies in wafer level integration. We will begin by examining current market trends driving this technological evolution. The main focus will be on the analysis for varieties of platforms and structural aspects of fan-out packages and further deepen on 3D packages, highlighting interconnect techniques such as interposers, Through-Silicon Vias (TSVs) and hybrid bonding. Additionally, we will address the critical challenges of heat dissipation, signal integrity, power delivery and warpage issue in densely packed 3D structures.

Speech Outline:

- Market Trend Introduction
- Comparison of Interconnect Type
- Structural Analysis of Chiplet Stacking
- Challenge and Solution

Who Should Attend:

Everyone is welcome, especially for professional and student who is interested in fan-out and 3D packaging technology.

Introduction of Speaker:

Yu-Po Wang received Ph.D. in Mechanical Engineering from Binghamton University, State University of New York, U.S.A. In 1997, he started career at Gintic Institute of Manufacturing Technology in Singapore. He joins SPIL in 1998 and leads the R&D Package Application and Technology Support Team in substrate/package design, material characterization and advanced package. Dr. Wang has strong knowledge and experience in packaging characterization including thermal/ electrical simulation, advanced material(co-development), design and advanced packaging development. He has over 83 patents in US.

Experience:

- 1997-1998 Gintic Institute of Manufacturing Technology, Singapore
- 1998-Present SPIL, Taiwan, China