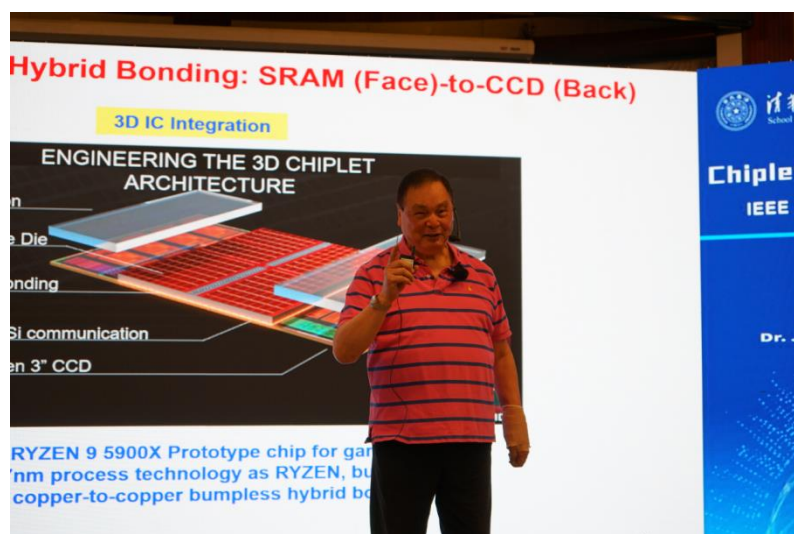


Distinguished Lecture by Dr. John H. Lau: Chiplet Design and Heterogeneous Integration Packaging

The distinguished lecture was presented by Dr. John Hon Shing Lau with the topic of "Chiplet Design and Heterogeneous Integration Packaging" at Tsinghua University, 11 May, 2023. The lecture was hosted by EPS Beijing Chapter.



Dr. Lau introduced the main driving forces of the rapid development of Chiplets. He expressed that the feature size that a monolithic SoC can use has been limited by technology and cost factors at present, and it has become increasingly difficult to continue scaling in accordance with Moore's Law. Meanwhile, cost can be significantly reduced because the manufacturing yield improves as die size gets smaller. As a result, Chiplet is becoming an emerging solution that has gained widespread attention.



Dr. John H. Lau presenting the lecture

Dr. Lau presented a comprehensive overview of Chiplet technology route, using prominent products from famous companies, and then he summarized the primary advantages and disadvantages of Chiplet solution.

He also offered a preview for potential R&D topics in Chiplet design and heterogeneous integration packaging, including lower cost, higher density, and higher performance lateral (horizontal) communication between Chiplets (bridges), structural design and material selection of multiple system and heterogeneous integration packages, as well as hybrid bonding technology that will play an important role in the future.

During the Q&A session, the attendees enthusiastically raised questions on topics including the technical challenges of hybrid bonding, build-up of the Chiplet industry ecosystem with related technology standards, trends in substrate fabrication, and the application prospects of Chiplet in the field of mobile phones, etc. Dr. Lau demonstrated much patience while offering detailed explanations to each inquiry.



The Q&A session

Submitted by James Cai
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