

Designing with TSVs: What to Do and What Not to Do

GUEST SPEAKER

Prof. Lim Sung Kyu

Electrical and Computer Engineering
Georgia Institute of Technology

When: **4th August 2011, 10.30 a.m. to 11.30 a.m.**

Where: **Institute of Microelectronics, Singapore**
11 Science Park Road Singapore Science Park II Singapore 117685

Abstract

Through-Silicon-Via (TSV) is the key enabling technology behind 3D ICs that promises hard-to-believe improvement in the metrics that are on everyone's wish list: area, power, performance, cost, etc. Unlike the benefit of this vertical interconnect that opens up new dimension to grow, however, little is known on the challenges that designers and manufacturers will face when dealing with TSVs. In this talk, we present several pioneering research work done recently related to TSV and 3D IC: (1) TSV-induced stress impact on device performance, mechanical reliability, and electro-migration, and (2) 3D partitioning, floor planning, placement, and routing with TSVs. We highlight the right and wrong ways to use TSVs and their positive and negative consequences on the quality of 3D ICs. We also present 3D-MAPS, the world's first many-core 3D processor from academia taped out in March 2010.

About the Speaker



Sung Kyu Lim received the B.S., M.S., and Ph.D. degrees from the Computer Science Department, University of California, Los Angeles (UCLA), in 1994, 1997, and 2000, respectively. He joined the School of Electrical and Computer Engineering, Georgia Institute of Technology in 2001, where he is currently an Associate Professor. His research focus is on the architecture, circuit design, and physical design automation for 3D ICs. Dr. Lim received the National Science Foundation Faculty Early Career Development (CAREER) Award in 2006. His work is nominated for the Best Paper Award at ISPD'06, ICCAD'09, CICC'10, and DAC'11. He has been leading the Cross-center Theme on 3D Integration for the Focus Center Research Program (FCRP), Semiconductor Research Corporation (SRC), since 2010.

Registration

Pre-registration is required. Closing date is 2nd August 2011. To register, please log on:
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