

2013 Symposia on VLSI Circuits Short Course

(Suzaku I)

Tuesday, June 11

14:40-15:40 Foundry Based IC Design in Advanced Technology

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Abstract

Moving to advanced process technology we face further challenges in IC design which are caused by continuous reduction of critical dimensions along with higher complexity of process integration and device structure. Significance of random/local fluctuation, strong influence by parasitics, high sensitivity of device characteristics to physical layout, and device performance degradation (aging) are well known examples. In this presentation, we will first review fundamentals on those technical issues over multiple process options available at silicon foundries, then review foundry PDK coverage and limitation followed by discussing IC design challenges along with possible solutions.

Biography

Kimihiko Imura received the M.Sc. degree in Materials Science (solid-state physics) from Hiroshima University, Japan, in 1985. In 2004 he joined MaxLinear, Inc., CA, USA, as a co-founder and VP of Technology, and since then he has been leading technology/PDK development and foundry operations. Prior to joining MaxLinear, he served several management and lead engineering positions in semiconductor (silicon and compound semiconductors) technology development and device modeling at Silicon Wave Inc., CA, USA, AMI Semiconductors, ID, USA, and Japan Energy Corporation, Tokyo, Japan.