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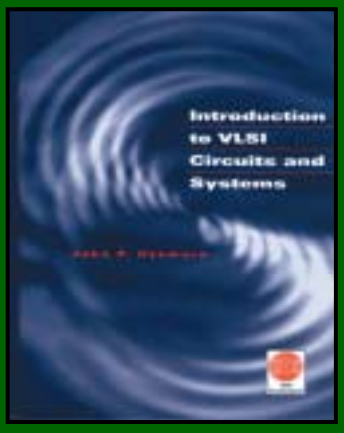


# *INTRODUCTION TO VLSI CIRCUITS AND SYSTEMS*

## *VLSI 電路與系統概論*

**John P. Uyemura**

### 簡介

Written for students in electrical or computer engineering taking their first VLSI course, this text will serve to introduce students to the field of digital VLSI design. Introduction to VLSI Circuits and Systems is a comprehensive treatment of modern VLSI design. Treatment revolves around the design hierarchy used in the engineering of large, complex digital systems. A unique CD-ROM accompanies the text and provides versions of Verilog and SPICE simulators allowing students to have immediate access to the programs used in the text, though is not necessary for using the text. The CD-ROM also offers a PC-based presentation on CMOS layout using stick diagrams giving students the opportunity to see color-coding and examples without having to resort to color printing.

### 特色

1. Presents modern CMOS logic circuits, fabrication, and layout in a cohesive manner that links material together with the system-level considerations. Allowing students to either make the connection with previous courses, or, learn the material from scratch.
2. A chapter on Verilog HDL is provided as the foundation for systems design. This is a unique feature in both the inclusion of the chapter and the application examples in the text. This is an easy-to-read, fast-paced chapter that allows for rapid start-up and ensures that students will not need buy another text to learn Verilog HDL.
3. *Introduction to VLSI Circuits and Systems* illustrates the top-down design procedure used in modern VLSI chip design with an emphasis on variations in the HDL, logic, circuits, and layout. This approach gives students the opportunity to see the tradeoffs that occur at all levels of the design hierarchy. The student learns to compare different solutions to a problem, and learns how design choices affect the overall outcome.

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3. Logic Design with MOSFETs.
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5. Fabrication of CMOS Integrated Circuits.
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8. Designing High-Speed CMOS Logic Networks
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12. Arithmetic Circuits in CMOS VLSI
13. Memories and Programmable Logic
14. System Level Physical Design
15. VLSI Clocking and System Design
16. Reliability and Testing of VLSI Circuits


### 基本資料


全華書號：20858917
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### 作者簡介

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Born Dec. 6, 1952, in Denver, Uyemura received his bachelor's, master's and doctoral degrees in electrical engineering and computer science from the University of California at Berkeley in 1974, 1977 and 1978, respectively. After earning his Ph.D., he joined Georgia Institute of Technology as an assistant professor in ECE. He was promoted to associate professor in 1984 and to full professor in 1992. He died on Feb. 3 2003 from a heart attack.


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