



清華大學
微电子学研究所

Institute of Microelectronics of Tsinghua University

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Ming-Dou Ker
Chair Professor of
Department of Electronic Engineering
I-SHOU University
Taiwan

Dear Prof. Ming-Dou Ker

I would like to invite you to visit Tsinghua University, Beijing, and to give a technical short course on “**Advanced ESD Protection Design in CMOS Integrated Circuits**” to the graduated students and engineers.

Your short course is planned in the week of July 5 ~ July 9, 2010.

I look forward to your visit and a fruitful discussion on collaboration.

Sincerely

A handwritten signature in cursive script that reads 'Chun Zhang'.

Chun Zhang

微电子与纳电子学系海外学者短期讲学课程通知

【课程名称】：先进CMOS集成电路ESD保护设计

(Advanced ESD Protection Design in CMOS Integrated Circuits)

【课程号】：Y0260031 (1学分)

【上课时间】：7月5、6、7日 9:00—12:00 13:30—16:30 3天18小时。

【上课地点】：微电子所新所 东主楼9区103

【主讲教师】：柯明道 教授

【授课对象】：全校研究生

【先修要求】：集成电路设计相关课程

【课程内容】：

1. Introduction to ESD (Electrostatic Discharge).
2. Industrial ESD Standards and Basic Protection Concept.
3. Transmission-Line Pulse Generator (TLPG).
4. Process Issues on ESD Robustness of CMOS ICs.
5. Turn-On Mechanisms and Layout Effect on ESD Robustness of CMOS Devices.
6. Circuit Techniques for On-Chip ESD Protection Design.
7. ESD Protection Design with SCR Devices.
8. Whole-Chip ESD Protection Scheme (Power-Rail ESD Clamp Circuit).
9. Whole-Chip ESD Protection Scheme (ESD Protection for Integrated Circuits with separated power lines).
10. ESD Protection Design for Mixed-Voltage I/O.
11. ESD Protection Design for RF Circuits.
12. ESD Protection in High-Voltage CMOS IC.
13. ESD Protection Design for Charged-Device-Model ESD events.
14. System-Level ESD issue.
15. Transient-Induced Latchup in CMOS IC.

【考核方式】：考查

【联系人】：胡老师

【联系电话】：62783599

【电子邮箱】：training@dns.ime.tsinghua.edu.cn

有选课的同学请于6月30日17:00之前通过邮件（写明自己个人信息，包括姓名，学号，所在院系，个人邮箱，个人手机号 是否需要资料）向联系人报名。

欢迎同学们报名参加。

微电子与纳电子学系

研究生院

2010年5月31日

后附主讲教师介绍

● 主讲教师: 柯明道 博士



Ming-Dou Ker (柯明道) received the Ph.D. degree from the Institute of Electronics, National Chiao-Tung University, Hsinchu, Taiwan, in 1993.

He has ever worked as the Department Manager in the VLSI Design Division of the Computer and Communication Research Laboratories (CCL), Industrial Technology Research Institute (ITRI), Taiwan. Since 2004, he has been a Full Professor in the Department of Electronics Engineering, National Chiao-Tung University, Taiwan. He also served as the *Director of Master Degree Program* in the College of Electrical Engineering and Computer Science, National Chiao-Tung University; as well as the *Associate Executive Director* of National Science and Technology Program on System-on-Chip (NSoC), Taiwan. In 2008, he was rotated to I-Shou University, Kaohsiung, Taiwan, as Chair Professor (講座教授) and Vice President (研究副校長). In the field of reliability and quality design for circuits and systems in CMOS technology, he has published over 400 technical papers in international journals and conferences. He has proposed many inventions to improve reliability and quality of integrated circuits, which have been granted with 162 U.S. patents and 147 Taiwan patents. His current research interests include reliability and quality design for nanoelectronics and gigascale systems, high-speed and mixed-voltage I/O interface circuits, on-glass circuits for system-on-panel applications, and biomimetic circuits and systems for intelligent prosthesis. Prof. Ker had been invited to teach or to consult reliability and quality design for integrated circuits by hundreds of design houses and semiconductor companies in the worldwide IC Industry.

Prof. Ker has served as member of the Technical Program Committee and Session Chair of numerous international conferences. He was selected as the *Distinguished Lecturers* in IEEE Circuits and Systems Society for 2006-2007, as well as, in IEEE Electron Devices Society for 2008-2010. He ever served as Associate Editor in *IEEE Trans. on VLSI Systems*. He was the President of Foundation in *Taiwan ESD Association*. In 2008, Prof. Ker was elevated as an **IEEE Fellow** with the citation of “**for contributions to electrostatic protection in integrated circuits, and performance optimization of VLSI micro-systems**”. In 2009, Prof. Ker was awarded as one of the top ten *Distinguished Inventors* in Taiwan, and also selected as one of top hundred *Distinguished Inventors* in China.