



## 信息检索

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## 研究所站点

- 微电子方向
- 光电子方向
- ESD实验室

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### 个人资料

姓名	刘俊杰	出生年月	0000-00-00	照片
性别	男	出生地点	台湾	
毕业院校	University of Central FL	电话	0571-87951705-306	
职称	长江讲座教授	邮箱	liou@ucf.edu	
分管工作	讲座教授	传真	0571-87953116	
学历学位	Ph. D	所学专业	EE	
研究方向	半导体器件建模、RFIC、ESD	工作时间	1982-01-01	
联系地址	ECE Dept., University of Central Florida, Orlando, FL (邮编: 32816)			

### 一、人员介绍

BIOGRAPHY OF JUIN J. LIOU

I. Summary of Personal Background and Professional Contributions

#### OFFICE:

Electrical and Computer Engineering Dept., University of Central Florida, Orlando, FL 32816; Phone: (407)823-5339; Fax: (407)823-5835; E-mail: liou@pegasus.cc.ucf.edu, liou@ucf.edu

#### HOME:

1933 Ayrshier Place, Oviedo, FL 32765; Phone: (407)365-1650

#### AREA OF INTEREST:

Micro/nanoelectronics computer-aided design, RF device modeling and simulation, and semiconductor manufacturing and reliability.

#### EDUCATION:

B.S., 1982, University of Florida in Electrical Engineering (with honors)

M.S., 1983, University of Florida in Electrical Engineering

Ph.D., 1987, University of Florida in Electrical Engineering

#### EXPERIENCE:

2002-2004: Acting Associate Dean for Graduate Studies, College of Engineering and Computer Science, University of Central Florida

1997-present: Professor, Electrical and Computer Engineering Department, University of Central Florida

1994-present Director, Solid-State Electronics Lab and Device Characterization Lab,

University of Central Florida

1994-1999: Graduate Program Coordinator and Resource Development Officer, Electrical & Computer Engineering Dept., University of Central Florida

1991-1997: Associate Professor, University of Central Florida

1987-1991: Assistant Professor, University of Central Florida

1985-1986: Instructor, University of Florida

1982-1986: Research Assistant, University of Florida

1977-1979: Product Engineer, Tatung Company, Taipei, Taiwan, R.O.C.

PERSONAL:

Birth Date: March 24, 1954. Married, two children. U.S. citizen.

PROFESSIONAL ACTIVITY:

- + Fellow of IEE, Senior Member of the IEEE; Member of the New York Academy of
- + Regional Editor (in USA, Canada and South America), *Microelectronics and*
- + Associate Editor, *Simulation Journal* (VLSI and Circuit Simulation area).
- + Guest Editor, *Microelectronics and Reliability* (Special Issue: Reliability of  
and IC Compound Devices
- + Editorial Advisory Board, *Microelectronics and Reliability*.
- + Treasurer of IEEE Electron Device Society.
- + Chair of IEEE EDS Finance Committee
- + Vice-Chair of IEEE EDS Regions/Chapters Committee
- + Member of IEEE EDS Administrative Committee; Member of IEEE Educational Activities
- + Chapter Partner of IEEE EDS Mexico Chapter, Venezuela Chapter, Mid-Hudson Chapter,
- + Technical Program Co-Chair, International Conference of Solid-State and Integrated
- + International Advisory Committee Chair, IEEE International Conference on Electron
- + Local Program Chair, IEEE Workshop on Frontier Electronics (2004)
- + International Advisory Chair, IEEE International Caracas Conference on Devices,
- + Technical Program Co-Chair, International Conference of Solid-State and Integrated
- + General Chair, IEEE International Symposium on Electron Devices for Microwave and
- + General Chair, IEEE International Caracas Conference on Devices, Circuits, and
- + Technical Program Chair, IEEE Hong Kong Electron Device Meeting (1998, 1999), IEEE
- + Registration Committee Chair, IEEE International Symposium on Circuits and Systems
- + Member of Steering Committee: IEEE International Conference on Microelectronics,
- + Member of Technical Program Committee: International Symposium on
- + Consultant for OGDEN/ERC Government Systems, Wright Laboratory (Air Force), Sharp
- + Reviewer for the following technical journals: Journal of Applied Physics, Applied
- + Session Organizer/Chairman, "Compound Semiconductor Devices," IEEE Hong Kong
- + Session Organizer/Chairman, "Solid State Electronics," IEEE Southcon, Orlando, FL

+ Session Organizer/Chairman, "Device Modeling and Circuit Simulation," Modeling and

+ Session Organizer/Chairman, "Science and Technology," Annual Conference of

+ Session Organizer/Chairman, "Modeling and Simulation of HBT," IEEE International

+ Secretary, Chinese-American Scholar Association of Florida (1991-1992).

+ Vice-President, Chinese-American Association of Central Florida (1994).

+ President, Chinese-American Association of Central Florida (1995).

+ Vice-President, Chinese-American Scholar Association of Florida (1999-2000).

+ Visiting Senior Fellow, Electrical Engineering Dept., National University of

+ Conducted an invited 3-day tutorial "Advanced Semiconductor Device Physics and

+ Conducted an invited 2-day tutorial "MOSFET Device Physics, Simulation, and

+ Conducted an invited 2-week short course, "Advanced Semiconductor Device Physics

+ Conducted an invited 4-day short course, "Modern RF Transistors: Design,

+ Conducted an invited tutorial, "Recent advances and compact modeling of RF

+ Conducted an invited tutorial, "Electrostatic discharge protection for

HONORS AND AWARDS: International Symposium on Physical Failure and Analysis, Hsinchu, ~~microchips~~

+ Fellow of the IEE (2005)

+ Cao Guang-Biao Endowed Professorship, Zhejiang University, China (2005-present)

+ IEEE Joseph M. Biedenbach Outstanding Engineering Educator Award (2004)

+ IEEE Outstanding Educator Award, Florida Council (2003).

+ IEEE Outstanding Educator Award, Orlando Section (2003).

+ IEEE 10th Anniversary Award, Hong Kong Section (2003).

+ IEEE Electron Device Society Distinguished Lecturer (2002-present).

+ IEEE Outstanding Contribution Award, Eastern Europe Section (2000).

+ IEEE Engineer of the Year, Orlando Section (1992).

+ Distinguished Researcher Award, University of Central Florida (1992, 1998, 2002).

+ Research Incentive Award, University of Central Florida (2000).

+ Teaching Incentive Award, University of Central Florida (1995).

+ Senior Department Research Award, University of Central Florida (1993).

+ Senior College Research Award, University of Central Florida (1993).

+ Faculty Outstanding Award, Student Engineering Council, University of Central

+ Best Paper Award, University of Central Florida Chapter, American Society of

+ Courtesy Professor, Huazhong University of Science and Technology, Wuhan, China

+ Courtesy Professor, Zhejiang University, Hangzhou, China (2004-present).

+ Courtesy Professor, South China University of Technology, Guangzhou, China (2004-

+ Eminent Engineer, Tau Beta Pi (1992).

+ Air Force Summer Research Faculty, Air Force Office of Scientific Research,



*Heterojunction Bipolar Transistors*, 8 chapters, 300 pages, Artech House, Inc., Boston, Feb.

1996.

3) Textbook (senior-level): J. S. Yuan and J. J. Liou, *Semiconductor Device Physics and*

*Simulation*, 9 chapters, 350 pages, Plenum Publishing Co., New York, May 1998.

4) Textbook (graduate-level): J. J. Liou, A. Ortiz-Conde, and F. Garcia Sanchez, *Analysis and*

*Design of MOSFETs: Modeling, Simulation, and Parameter Extraction*, 6 chapters, 350

pages, Kluwer Academic Publishers, Norwell, MA, Sept. 1998.

5) Textbook (graduate-level): F. Schwierz and J. J. Liou, *Modern RF/Microwave Transistors:*

*Theory, Design, and Applications*, 8 chapters, 450 pages, Wiley, New York, 2003.

\* Textbook (graduate-level): J. Vinson, J. Bernier, G. Croft, and J. J. Liou,

\* Textbook (graduate-level): R. Rapeta, W. Wong, and J. J. Liou, *Test Structure,*

\* Courses Taught

Linear Networks; Electrical Devices and Systems; Semiconductor Device Fabrication;

Fundamental Semiconductor Device Physics; Advanced Semiconductor Device Physics;

Device Electronics for Integrated Circuits; Electronic Circuit Design; and

Electromagnetics.

\* Curriculum Development

\* Established the Solid State Electronics Lab at UCF. The lab is equipped with

\* Established the Semiconductor Device Characterization Lab at UCF. The lab is

\* Developed a new course in Microelectronics area, "Device Modeling and Circuit

\* Developed a new course in Microelectronics area, "Device Electronics for

\* Developed a new course in Microelectronics area, "Solar Cells: Theory and

\* Developed a new course in Microelectronics area, "Advanced Semiconductor Device

\* Revised an existing course in Microelectronics area, "Advanced Semiconductor Device Physics and Modeling I."

\* Program Development

\* Contributed in developing the Minority Student Mentoring Program at University of

\* Contributed in developing an educational program between UCF and Lockheed Martin,

\* Graduate Students/Visiting Scholars Supervised

Supervised 23 M.S. Students (21 completed and 2 in progress), 14 Ph.D. students (9 completed and 6 in progress), and 4 visiting scholars.

Invited Seminars/Presentations

1. "Current status and future trend of AlGaAs/GaAs HBTs," National Taiwan University, Taipei, Taiwan, 1991.

2. "Modeling the AlGaAs/GaAs HBT with a graded base layer," National Chiao-Tong University, Taipei, Taiwan, 1992.
3. "Testing model for bipolar junction transistors," IBM, Boca Raton, Florida, 1993.
4. "Neural networks: its design and applications," Harris Semiconductor Corp., Melbourne, Florida, 1993.
5. "Modeling and simulation of AlGaAs/GaAs HBTs," Wright Lab., Wright-Patterson Air Force Base, Ohio, 1993.
6. "Optimization of CMOS process," AT&T Microelectronics, Orlando, Florida, 1993.
7. "Thermal effects on the performance of power AlGaAs/GaAs HBTs," Sharp Corporation, Nara, Japan, 1993.
8. "AlGaAs/GaAs HBTs: an overview," National Cheng-Kung University, Tainan, Taiwan, 1994.
9. "Leakage currents of AlGaAs/GaAs HBTs," National Central University, Taipei, Taiwan, 1994.
10. "Advanced semiconductor device physics and modeling," National Singapore University, Singapore, 1995.
11. "Semiconductor device physics: an overview," Technical University Ilmenau, Ilmenau, Germany, 1995.
12. "Two-dimensional simulation of AlGaAs/GaAs HBTs," Tsinghua University, Beijing, China, 1995.
13. "Device physics and modeling of CMOS," MOSEL Semiconductor, Taipei, Taiwan, 1995.
14. "MOSFET parameter extraction based on two-dimensional device simulation," AT&T Microelectronics, Orlando, 1995.
15. "MOSFET simulation using device simulator," IEEE Hong Kong Electron Device Society Meeting, Hong Kong, Jan. 28, 1997.
16. "Computer-aided design for microelectronics: an overview," National Yunlin University of Science & Technology, Taiwan, Dec. 1998.
17. "Reliability of AlGaAs/GaAs HBTs," Hitachi Corp., Tokyo, Japan, June 1999.
18. "Research activities in microelectronics at University of Central Florida," Tsinghua University, Beijing, China, April 1999.
19. "Research activities in microelectronics at University of Central Florida," Fudan University, Shanghai, China, April 1999.
20. "Device simulation and parameter extraction of MOSFETs," Silicon Manufacturing Partners, Singapore, July 1999.
21. "Research activities in microelectronics at University of Central Florida," United Silicon Integrated Corp., Taiwan, June 1999.
22. "Reliability of AlGaAs/GaAs HBTs: modeling and characterization," Thomson-CSF Corp, Paris, France, Nov. 1999.

23. "Computer-aided design for microelectronics devices and ICs," National Chi Nan University,  
Taiwan, June 2000.
24. "Statistical modeling of MOS devices and ICs," National Taiwan University, Taiwan,  
June  
2000.
25. "Simulation and parameter extraction of semiconductor devices," Chongqing  
University,  
Chongqing, China, June 2000.
26. "Electrostatic discharge in semiconductor devices: improved measurement technique and  
SPICE modeling," Conexant Systems, Inc., Oct. 2000.
27. "Overview of electrostatic discharge in microchips," IEEE Singapore Section,  
Singapore, Jan. 2001.
28. "Evolution and current status of RF/microwave semiconductor devices," IEEE Hong  
Kong  
Section, Jan. 2001.
29. "Evolution and current status of RF/microwave semiconductor devices," Nanjing  
University,  
Nanjing, China, Jan. 2001.
30. "Evolution and current status of RF/microwave semiconductor devices," Huazhong  
University of Science & Technology, Wuhan, China, Jan. 2001.
31. "Overview of RF/microwave semiconductor devices and applications," Tsinghua  
University,  
Beijing, China, May 2001.
32. "Electrostatic discharge protection for RF microchips," Intel Corp., Sacramento, CA,  
Aug. 2001.
33. "Progress in RF semiconductor devices," Conexant Systems, Inc., Orange County, CA,  
Aug.  
2001.
34. "RF transistors and circuits: a historical prospect," IEEE Korea Section, Seoul,  
Sept. 2001.
35. "SPICE modeling of electrostatic discharge (ESD) in microchips," University of  
Nevada, Las Vegas, NV, Oct. 2001.
36. "Recent advances in RF semiconductor devices," University degli Studi di Rome,  
Rome, Italy, Nov. 2001.
37. "Reliability of AlGaAs/GaAs and InGaP/GaAs heterojunction bipolar transistors,"  
IBM,  
Fishkill, NY, Dec. 2001.
- + "RF/microwave transistors: evolution, current status, and future trend," IEEE
- + "Recent advances in RF/microwave transistors," IEEE Taiwan Section, Tainan,
- + "Recent advances in RF/microwave transistors," IEEE Singapore Section,

- + “Overview of modern transistors for RF applications,” IEEE Orlando Section,
- + “Modeling of junction field-effect transistors for computer-aided design,”
- + “Electrostatic discharge (ESD) protection for microchips,” IEEE Orlando Section,
- + “Design and optimization of ESD protection structures for RF applications,” IEEE
- + “Evolution and recent advances in RF transistors,” IEEE Switzerland Section,
- + “RF CMOS: recent advances and future applications,” Promos Corporation, Hsinchu,
- + “Evolution and recent advances in RF transistors,” IEEE Mexico Section, Mexico
- + “RF CMOS: recent advances and future applications,” IEEE Venezuela Section,
- + “High-speed semiconductor devices: an overview,” National Cheng Kung University,
- + “On-chip spiral inductor for RF applications,” IEEE Singapore Section,
- + “Overview of recent progress in RF transistors,” IEEE Vancouver ED Chapter,
- + “On-chip spiral inductors for RF applications,” IEEE Hong Kong ED Chapter, Hong
- + “Reliability modeling of MOS devices and circuits,” Taiwan Semiconductor
- + “Modeling of spiral inductor for RF applications,” Freescale Semiconductor,
- + “Spiral inductors for RF applications,” Peking University, Beijing, China, Dec. 2005.

#### IV. References

- + Dr. Waisum Wong, Associate Director, R&D Division, SMIC Corp., Shanghai, China;
- + Michael Shur, Chair Professor, ECSE Dept., Rensselaer Polytechnic Institute, Troy,
- + Dr. Yuhua Cheng, CTO, Siliconlinx, Inc., Irvine, CA 92612; Phone: (714)585-5707;
- + Dr. Hiroshi Iwai, Professor, Frontier Collaborative Research Center, Tokyo
- + Dr. Michael Georgiopoulos, Professor and Graduate Coordinator, ECE Dept.,

#### 科研成果:

18Bit $\Delta$ - $\Sigma$ ADC(0.18um Mixed)芯片

18Bit $\Delta$ - $\Sigma$ DAC(0.18um Mixed)芯片