



Mark Law



Mark Law is the Associate Dean for Academic Affairs in the College of Engineering at the University of Florida. He is professor and past-chair of Electrical and Computer Engineering. He received the B.S. Cpr.E. degree from Iowa State University in 1981, the M.S.E.E. from Stanford University in 1982, and the Ph.D. degree from Stanford University in 1988. He worked at Hewlett Packard from 1982-85 and joined the faculty at Florida in 1988. He began an appointment as chair of the electrical and computer engineering department in 2003 and moved to the dean's office in 2009. His current research interests are in integrated circuit devices and reliability. As a graduate student he co-authored SUPREM-IV, and his research group at Florida has developed FLOOPS and FLOODS, the Florida Object Oriented Process and Device Simulators. The FLOOPS/FLOODS development effort won the 1993 Semiconductor Research Corporation (SRC) Technical Excellence Award. Dr. Law was named a National Science Foundation Presidential Faculty Fellow in 1992, Outstanding Young Alumni of Iowa State in 1994, College of Engineering Teacher of the Year in 1996-97, a UF Research Fellow in 1998, won the 2006 SRC Aristotle Award for Outstanding Graduate Student Advising, and an Iowa State Professional Achievement Award in 2007. He was editor-in-chief of the IEEE Journal on Technology Computer Aided Design from 1997-2002, and has served as an editor of IEEE Transactions on Semiconductor Manufacturing. He is a past-president of the Southeastern ECE department heads organization. He was the vice-president for technical activities of the IEEE Electron Device Society (EDS) from 2003-2006. He chaired the 2000 International Electron Devices Meeting. Dr. Law has written over 200 papers in the area of process and device modeling and has advised 18 Ph.D. students. He has been involved in more than \$15 million of funding during his career. He was named an IEEE Fellow in 1998 for his contributions to integrated circuit process modeling and simulation. He was the 2010 IEEE EDS J.J. Ebers Award winner for contributions to widely used process modeling tools.

Why did you choose to study the engineering field?

I started in physics, but I learned that jobs were mostly in academia and you needed to go to graduate school. The director of the Iowa State Honors Program, Liz Beck, encouraged me to go to a faculty member in electrical engineering, Ed Jones. He and I put together a curriculum plan for computer engineering that allowed me to take many of the physics classes I wanted to study. So these great mentors allowed me to find a path that didn't require graduate school or working in academia. Obviously, plans changed over time. I'm a master of career planning!

What do you love about engineering?

I like the problem solving aspect. It's exciting when the pieces come together and you figure something out. This is particularly true in research, when you have that flash of insight and realize you are the only person in the world that currently understands some phenomena.

What don't you like about engineering?

Nothing – I really couldn't be happier with my career path.

Whom do you admire, and why?

My Ph.D. advisor, Prof. Robert W. Dutton of Stanford. He created a great atmosphere of teamwork and excellence. Bob allowed us a great deal of free rein technically, and we felt we really owned the project. He was there for advice and direction, but did not micro-manage our approach to the big problem. He was great at seeing the big picture and getting his group to attack the pieces successfully. Those were some of my best professional years. I admire just about everything he did as a mentor and leader of our research.

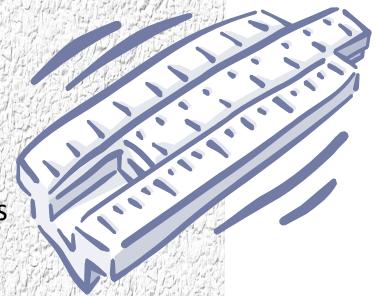
Prof. Ed Jones of Iowa State was my undergrad advisor. Ed encouraged me to find challenges and pursue my interests. He allowed me to construct a curriculum that matched my interests and was the first person to get me to think about grad school. I admire how student centric he was and the time he took to figure out what we wanted.

Liz Beck, director of Iowa State Honors, gave me my first experience at leadership. She helped me find my way at Iowa State. Liz was fabulous at identifying and nurturing young talent.

All three of these people are folks I try to emulate in my career.

How has the engineering field changed since you started?

We're not using slide rules anymore! Technology has allowed us to approach problems in ways we couldn't when I started research. Problems that used to require days on advanced computers to solve can now be approached in minutes on my laptop. That has allowed us to build more complexity into models and approach problems that were inconceivably complex two decades ago.



What direction do you think that the engineering field is headed in the next 10 years?

An increasing adoption of interdisciplinary coursework. Engineers will get broader at the undergraduate level, and interdisciplinary problems will guide most research. We need to adapt curriculum to make more options available for students. Man developed disciplines, but nature is where the problems are. Engineering education needs to adapt more completely to online resources. Revolutionary, exciting things are happening, and education needs to adapt.

What is the most important thing you have learned in the field?

How important the arts and humanities are to the field. Engineers have to write, read critically, and communicate – all skills important to the non-engineering classes. My ability to communicate has been critical in my career success. The arts and humanities can also be critical for helping developing creativity.



What advice would you give to recent graduates entering the field?

Focus on finding opportunities to continually learn and update your skills. Fields change so fast it is easy to become obsolete.

If you were not in the engineering field, what would you be doing?

It's hard to imagine, but I think I would be teaching something other than engineering. I enjoy working with students. I am very interested in history, so I could envision a career as a history professor.

Finish this sentence: "If I had more time, I would..."

...I would spend more time with family and friends, and perhaps spend some more time with the guitar. It's hard to find time to practice."