



SEMINAIRE EXCEPTIONNEL

(de 15h30 à 16h45, Amphi M001 Phelma, Bât. INP, Minatec,
ouvert à tous : enseignants, étudiants, chercheurs, administratifs, techniciens)

Vendredi 16 septembre 2016

“Ultra-Low Power Design and RF Circuit Reliability for Internet of Things (IoT)”

by Prof. Jiann-Shiun YUAN,
University of Central Florida, Orlando,
Distinguished Lecturer for the IEEE Electron Devices Society.

Abstract: Wearable electronics, intelligent devices, medical electronics, and more recently internet of things (IoT) are dramatically changing the way we experience life by providing rich information about our activities, health, and the environment. To be truly ubiquitous, these devices must be energy autonomous and ultra-low power using the little energy available to it for computation. In addition, RF circuit reliability for wireless communication becomes increasingly important for IoT devices.

In this talk Prof. Yuan is going to present research topics in ultra-low power mixed-signal ADC designs using emerging tunnel FET devices. Energy autonomous electronics using RF energy harvesting and wireless power transfer will be illustrated. In addition, RF circuit reliability subjected to hot electron and gate oxide breakdown stress and process variability will be presented.

Jiann-Shiun Yuan received the M.S. and Ph.D. degrees from the University of Florida, Gainesville, in 1984 and 1988, respectively. In 1988 and 1989 he was with Texas Instruments Incorporated for CMOS DRAM design. Since 1990 he has been with the faculty of the University of Central Florida (UCF), Orlando, where he is currently a full Professor and Director of NSF Multi-functional Integrated System Technology (MIST) Center. He is the author of three textbooks and 300 papers in journals and conference proceedings. He supervised twenty-three Ph.D. dissertations, thirty-two M.S. theses, and five Honors in the Major theses at UCF. Since 1990, he has been conducting many research projects funded by the National Science Foundation, Intersil, Jabil, Honeywell, Northrop Grumman, Motorola, Harris, Lucent Technologies, National Semiconductor, and the state of Florida. He is currently supervising six Ph.D. students and one master student for research.

Dr. Yuan is a member of Eta Kappa Nu and Tau Beta Pi. He is a founding Editor of the IEEE Transactions on Device and Materials Reliability and a Distinguished Lecturer for the IEEE Electron Devices Society. He was the recipient of the 1995, 2004, 2010, and 2015 Teaching Award, UCF; the 2003 Research Award, UCF; the 2003 Outstanding Engineering Award, IEEE Orlando Section, the Excellence in Research Award at the full Professor level of the College of Engineering and Computer Science in 2015, and the Pegasus Professor Award, highest academic honor of excellence at UCF, in 2016.

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