



IEEE SSCS/CASS Atlanta Joint Chapter Seminar IEEE Solid-State Circuits Society SSCS Distinguished Lecture

Title: A Fully-Integrated CMOS Frequency Synthesizer for Software-Defined Radios

Speaker: Professor Howard C. Luong

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Abstract: This talk presents the design and the measurements of a fully integrated frequency synthesizer for software-defined radios (SDRs), which meets both the frequency and the phase noise requirement for all the wireless standards from 47MHz to 10GHz, including the 14-band UWB, and the 802.15.3c standard from 57GHz to 66GHz. Implemented in a 0.13 μ m CMOS process, the synthesizer prototype occupies an active area of 3mm², consumes a total power of 33mW to 83mW, and achieves a measured phase noise of -139.6dBc/Hz at 3MHz offset from a 1.7GHz carrier.



Speaker Biography: Howard Luong received his BS, MS, and PhD degrees in Electrical Engineering and Computer Sciences (EECS) from University of California at Berkeley in 1988, 1990, and 1994, respectively. Since September 1994, he has joined the EEE faculty at the Hong Kong University of Science and Technology where he is currently a professor.

Professor Luong's research interests are in analog, RF, and mm-Wave integrated circuits and systems for wireless and portable applications. He was a co-author of the two books entitled "Low-Voltage RF CMOS Frequency Synthesizers" published by Cambridge University Press in 2004 and "Design of Low-Voltage CMOS Switched-Opamp Switched-Capacitor Systems" published by Kluwer Academic Publishers in 2003.

Professor Luong is an IEEE Fellow. He is currently serving as an IEEE Solid-State Circuits Society Distinguished Lecturer, an Associate Editor for IEEE Virtual Journal on RFIC, and a technical program committee member of many conferences, including Custom Integrated Circuits Conference (CICC), European Solid-State Circuits Conference (ESSCIRC), and Asian Solid-State Circuits Conference (A-SSCC).

Seminar Time: 1:30PM-3:00PM on June 4th 2014

Seminar Location: Marcus Building rooms 1117-1118, Georgia Tech.

Organizer: Dr. Hua Wang, IEEE SSCS/CASS Atlanta Joint Chapter Chair, Assistant Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology. Email: hua.wang@ece.gatech.edu. Phone: (404) 385-6003

Light refreshments will be served at the seminar.