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Ph.D. Program in Micro- and Nano-Electronics

SEMINAR

Prediction and Mitigation of Spurs in Fractional Synthesizers

Speaker: Michael Peter Kennedy
University College Dublin

September 26th, 16:30 PM
Magenta Seminar Room

Abstract:

The process of fractional-N frequency synthesis inevitably results in periodic signals that manifest themselves as spurious frequency components in the output spectrum. Much research effort has been devoted to identifying spur production mechanisms and developing mitigation strategies. While great progress has been made in the case of charge-pump-based PLLs, digital-intensive architectures containing multiple soft and hard nonlinearities are throwing up new challenges. This talk will give an overview of spur production mechanisms, present recent mitigation innovations and explain why they work, and highlight open problems and potential solutions.

Bio:

Michael Peter Kennedy is Professor of Microelectronic Engineering at University College Dublin, Ireland and an IEEE Fellow. He received his Ph.D. degree from the University of California, Berkeley, and the D.Eng. degree from the National University of Ireland. He has published and lectured on a range of topics in the field of nonlinear circuits and systems including oscillators, chaos, neural networks, mixed-signal testing, phase-locked loops, delta-sigma modulation and frequency synthesis. He was awarded the IEEE Third Millennium Medal, the IEEE Circuits and Systems Society Golden Jubilee Medal, and the RIA Parsons Medal. He has licensed frequency synthesis technology and provided consultancy services to a number of semiconductor companies and co-founded Ireland's SSCS Chapter, the Microelectronics Industry Design Association and the Microelectronic Circuits Centre Ireland.

Organizer

Prof. Edoardo Bonizzoni

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Seminar in English

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