



28th IEEE COMPOUND SEMICONDUCTOR IC (CSIC) SYMPOSIUM

(Formerly IEEE GaAs IC Symposium)

Short Courses

Sunday, November 12th, 2006
San Antonio Convention Center
Room 217 C & D
8:30a.m. - 3:45p.m.

Course Coordinator:
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Course Co-Chairs:
Primit Parikh, Cree, Inc., SBTC
Sorin Voinigescu, University of Toronto

Short Course Format

The course will be held on Sunday November 12th and will begin with a continental breakfast. A lunch will be provided as well as a morning refreshment break. One course covers GaN Circuits and Applications and the other course covers RF and High Speed CMOS. The courses are in parallel so attendees will generally pick one or the other topic.

“GaN Circuits and Applications”

Gallium Nitride technology has improved to the point where considerable efforts are now devoted to advanced circuit and product developments in GaN. This course offers the student detailed instruction on circuit design techniques as well as several design examples by leaders in the GaN industry and academia.

- 7:00 a.m. **Registration and Breakfast**
- 8:30 a.m. **Introduction and Overview**
- 8:45 a.m. **GaN-based PA and LNA Circuit Design**
Bob York, UCSB
- 9:45 a.m. **Coffee Break**
- 10:00 a.m. **Advanced Switch Mode PA Techniques with Wide Bandgap semiconductors**
Bill Pribble, Cree Inc.
- 11:00 a.m. **Design Techniques for High Linearity, High Efficiency GaN PA Architectures**
Mathew Poulton, RF Micro Devices
- 12:00 p.m. **Lunch**
- 1:30 p.m. **Advanced Architectures and Linearization Techniques for GaN Power Amplifiers**
Peter Asbeck, UCSD
- 2:30 p.m. **Microwave/mm-wave AlGaIn/GaN HEMT Circuits and Applications**
Michael Schlechtweg, Fraunhofer Institute IAF
- 3:30 p.m. **GaN Technology: Impact of Device Technology on Amplifier and Oscillator Circuit Performance**
Sylvain Delage, Alcatel-Thales III-V Lab
- 4:30 p.m. **Questions and Discussion**
- 4:45 p.m. **Close of Short Course**

Who Should Attend

The short courses are a must for everyone interested in knowing the latest in advanced design technologies and their applications to both defense and commercial markets. Our lecturers will cater to a range of interests and experience levels. The course is designed to give all attendees a solid overview of the device technology from device physics fundamentals through specific circuit examples and applications.

Short Course Pre-Registration

So that we may properly plan for attendance, we encourage you to pre-register for the Short Courses. A limited number of registrations will be available on-site immediately prior to the start of the course. The price for the Short Course is \$350 for those that pre-register, and \$450 for those that register on-site. The price for students is \$200 for those that pre-register, and \$300 for on-site registration. The registration fee includes the lectures, a book of Short Course Notes, continental breakfast, lunch, and morning/afternoon refreshments. Additional copies of the Short Course Notes may be purchased for \$100 each. Registration for the Short Course and Symposium is online at www.csics.org.

“RF and High Speed CMOS”

CMOS technology continues to push toward higher frequencies and into markets traditionally the province of the compound semiconductors. This short course offers students an exciting array of topics from specialized CMOS technology, circuit design examples spanning the range 1 – 60 GHz and techniques for dealing with the challenging area of device/circuit interactions.

- 7:00 a.m. **Registration and Breakfast**
- 8:30 a.m. **Introduction and Overview**
- 8:45 a.m. **Nanoscale Bulk and SOI CMOS Technology**
O. Plouchart, IBM Semiconductor R&D Center
- 9:45 a.m. **Coffee Break**
- 10:00 a.m. **Device/Circuit Co-Design for High Speed Digital Circuits**
S. Voinigescu, U. of Toronto
- 11:00 a.m. **mm-Wave IC Design: The Transition from III-V to CMOS Circuit Techniques**
P. Yue, M. Rodwell, UCSB
- 12:00 p.m. **Lunch**
- 1:30 p.m. **CMOS Design for UWB Applications**
M. Tiebout, Infineon
- 2:30 p.m. **CMOS RF Switch Design and Applications**
D. Kelly, Peregrine Semiconductor
- 3:30 p.m. **Questions and Discussion**
- 3:45 p.m. **Close of Short Course**