

Integrated Circuits for High-Speed Serial Links

Overview

This course focuses on the design of circuits and systems for modern high-speed serial and parallel links. Analysis and simulation techniques to incorporate channel and circuit-level non-idealities in the evaluation of link performance will be discussed. Architectures to implement transmitters, receivers, equalizers, timing generation and recovery circuits will be described in detail. Topics include serializers, deserializers, voltage and current-mode transmitters, finite impulse response equalizers, continuous-time equalizers, decision feedback equalizers, clock generation and recovery using analog and digital phase-locked loops, and 3 measurement techniques. Several case studies highlighting state-of-the-art will be presented.

Dates for the Course	25th – 29th December, 2015
Host Institute	IIT Madras
No. of Credits	1
Maximum No. of Participants	60
You Should Attend If...	<ul style="list-style-type: none">▪ You are a student in the area of analog/mixed signal IC design.▪ You wish to learn from a world renowned expert in the area.▪ You want to get up to speed on the important area of high speed serial link design.
Course Registration Fees	<p>The participation fees for taking the course is as follows:</p> <p>Student Participants: Rs.1000</p> <p>Faculty Participants: Rs.3000</p> <p>Government Research Organization Participants: Rs.10000</p> <p>Industry Participants: Rs.40000</p>

The above fee is towards participation in the course and course material. The participants may be provided with hostel accommodation, depending on the availability, on payment basis.

Course Faculty



Prof. Pavan Kumar Hanumolu is currently an Associate Professor in the Department of Electrical and Computer Engineering at the University of Illinois, Urbana-Champaign. He received Ph.D. degree from the School of Electrical Engineering and Computer Science at Oregon State University, Corvallis, in 2006, where he subsequently served as a faculty member till 2013. Dr. Hanumolu's research interests are in energy-efficient integrated circuit implementation of analog and digital signal processing, sensor interfaces, wireline communication systems, and power conversion. He received the National Science Foundation CAREER Award in 2010 and is a corecipient of 2006 Custom Integrated Circuits Conference (CICC) Best Student Paper Award. Dr. Hanumolu currently serves as an Associate Editor of the IEEE Journal of Solid-State Circuits and is a technical program committee member of the VLSI Circuits Symposium and International Solid-State Circuits Conference. In the past, he also served as a technical program committee member of Custom Integrated Circuits Conference and as an Associate Editor of IEEE 2 Transactions on Circuits and Systems II and Transactions on VLSI Systems. Dr. Hanumolu is a Distinguished Lecturer of the Solid State Circuits Society and has published over 100 articles in prestigious venues such as International Solid-State Circuits Conference and the IEEE Journal of Solid-State Circuits.