

Advanced Digital VLSI Circuit Design

Overview

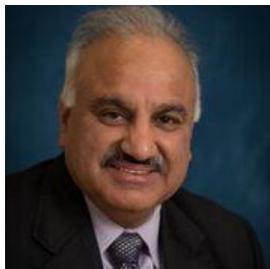
Today state of the art, complex System on a Chip (SoC), are capable of integrating few billion transistors on a substrate economically. At the same time, such circuits are produced in the fabrication plants that requires billions of dollars of investment. Therefore, circuit designers and architects must be aware of circuit as well as manufacturing challenges associated with it in order to design SoCs economically. In this course, the attendees will be exposed to advanced digital circuit concepts.

The primary objectives of the course are as follows:

- i) This is an advanced digital VLSI circuit design course that builds on a basic understanding of MOS transistor. Students will be exposed to the state on the subject matter.
- ii) Providing students hand-on training and skills to design and simulate circuits in labs.

Module	<ul style="list-style-type: none">• March 7-18, 2016.• Number of participants for the course will be limited to 30. Shortlisted candidate would be notified via email through GIAN portal.• Accommodations are available on first-come first-serve basis upon payment.
You Should Attend If...	<ul style="list-style-type: none">○ you are a graduate student or an engineer interested in gaining an understanding of the VLSI circuit design.○ you are a researcher interested in developing skills to design and simulate circuits in lab.○ you are a research scientist or a young faculty interested in applying your circuit design concepts to produce them successfully.
Fees	<p>The participation fees[#] for taking the course is as follows:</p> <ul style="list-style-type: none">• Participants from Abroad: USD 200• Industry/Research organization: INR 5,000 /-• Academic Institutions: INR 2000/- <p>The above fee include all instructional materials, computer use for tutorials and assignments, laboratory equipment usage charges, 24 hr free internet facility.</p> <p>[#] The participation fee is in addition to the registration fee that is to be paid on the GIAN portal.</p>

The Faculty



Professor Manoj Sachdev is a professor in the Electrical and Computer Engineering department, at the University of Waterloo, Canada. His research interests include low power and high performance digital circuit design, mixed-signal circuit design, test and manufacturing issues

of integrated circuits. He has contributed to five books, two book chapters, and has co-authored 200 technical articles in conferences and journals. He holds more than 30 granted and several pending US patents on various aspects of VLSI circuit design, reliability, and test, and has been consultant to several semiconductor companies. He, his students, and his colleagues have received several international awards. In 1997, at the IEEE European Design and Test Conference, he received the best paper award. In 1998, he was a co-recipient of the honorable mentioned award in the IEEE International Test Conference. He received the best panel award in 2004 IEEE VLSI Test Symposium. In 2011, he was a co-recipient of the best paper award in IEEE International Symposium on Quality Electronics Design; In 2015, he was a co-receipient of the best poster paper award in IEEE Custom Integrated Circuits Conference.

Professor Sachdev is an IEEE Fellow, and Fellow of Engineering Institute of Canada; and has served on several conference committees. In 1999, he was the Technical Program Co-Chair for IEEE Mixed-signal Test Workshop. He also served as the Technical Program Chair from IEEE IDDQ Test Workshop in 1999, and 2000. In 2007-08, he was an Associate Editor for IEEE Transactions on Vehicular Technology. In 2008 and 2009, he was the Program Chair for Microsystems and Nanoelectronics Research Conference, Ottawa, Canada. He serves on the editorial board of the Journal of Electronic Testing: Theory and Applications. He is a program committee member of IEEE Custom Integrated Circuits Conference.

Dr. Sachdev received his B.E. degree (with Honors) in Electronics and Communication Engineering from University of Roorkee (India), and Ph.D. from Brunel University (UK). He was with Semiconductor Complex Limited, Chandigarh (India) from 1984 till 1989 where he designed CMOS Integrated Circuits. From 1989 till 1992, he worked in the ASIC division of SGS-Thomson at Agrate (Italy). In 1992, he joined Philips Research Laboratories, Eindhoven (The Netherlands), where he researched on various aspects of VLSI testing and manufacturing.

Course Co-ordinator

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