



**A Report on
IEEE CASS Outreach Initiative 2014**

**Workshop on
“Advanced Topics in VLSI Circuit Design”
& Student Poster Session on
“Microelectronic Circuits”**

**Date
18th – 19th October 2014**

**At
Indian Institute of Technology Roorkee, India**

**Organized by
IEEE CAS Student Branch Chapter IIT Roorkee**

IEEE CASS Outreach Initiative 2014

1. Title of the initiative/event

Workshop on “Advanced Topics in VLSI Circuit Design”
& Student Poster Session on “Microelectronic Circuits”

2. Name and full contact details of the proposer

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3. Total number of participants

102 registered participants (Students- 97; Guests-6)
+4 Speakers

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4. Financial Report

4. a. Income

S.No.	Source	Amount (Rs.)	Amount (\$)
1	Support from IEEE CAS Society, through Outreach Initiative 2014 (1000USD)	60000	1000
2	Support from IEEE CAS Society, through Chapter start-up fund	19578	327
3	Participants Registration	35000	584
Total		1,14,578	1911

4. b. Outcome

S.No.	Item	Expenses (Rs.)	Expense (\$)
1	Speakers travelling allowance/honorarium/memento/bouquet/local hospitality/expenses (1+8)	68528	1142
2	Registration material distributed to all the participants	9500	159
3	Banners & Publicity	2000	33
4	Lunch and Dinner on Day 1; Tea and Refreshments on Day 1 and Day 2.	27550	460
5	Staff part-time salary	3000	50
6	Miscellaneous (Water bill, Telephone bill, Voluntaries transportation, Rent for displaying boards etc.)	3000	50
7	Student best poster award	1000	17
Total		1,14,578	1911

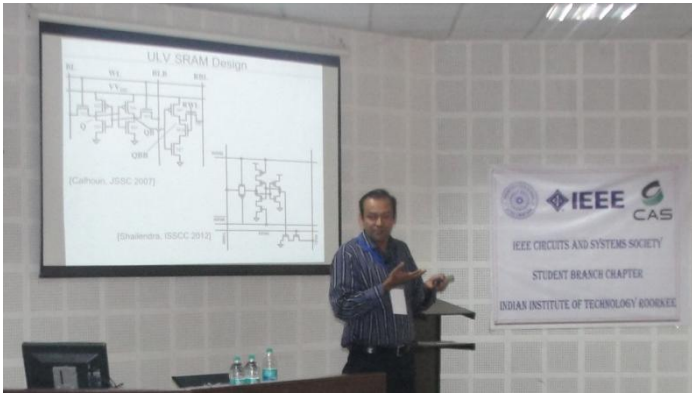
5. Brief description of the event

IEEE CAS Society Student Branch Chapter Organized a 2 day workshop on “Advanced Topics in VLSI Circuit Design” and student poster session on “Microelectronic Circuits”. In this event, 97 participants, 6 guests and 4 speakers are attended. Especially, we have invited two speakers from IISC Bangalore and IIT Madras to talk on their area of expertise.

On the first day, inauguration was graced by Prof. M. V. Kartikeyan Head of Department Electronics and Communication Engineering, IIT Roorkee. After that Prof. Amrutur Bradwaj from IISC Bangalore delivered 3 hours talk on Ultra Low Voltage Design: Challenges and Opportunities. This talk is primarily focus on the following aspects: fundamental limits of voltage scaling; minimum energy point; practical limits of voltage scaling; circuit design for ultra low voltage; methodology; and adaptivity. In the afternoon session, Prof. Nagendra Krishnapura from IIT Madras delivered 3 hours talk on synthesis of opamp and phase-locked loop topologies from first principles. This talk is targeted on the following points: Negative feedback with integrator as the central element; Synthesis of opamp topologies and Synthesis of phase locked loop topologies. After this talk, we have arranged a plenary talk by the Prof. Amrutur Bradwaj, Prof. Nagendra Krishnapura and Prof. Bishnu Prasad Das on the topic of recent trends in VLSI circuit design. In the evening session, the selected posters are displayed and the participants are lively interacted with the presenters. At the same time, the evaluation committee assessed the best poster award.

On the second day, Prof. Bishnu Prasad Das from IIT Roorkee delivered 1 and 1/2 hour talk on warning flipflop for dynamic voltage and frequency scaling in ASICs. The talk is focus on warning prediction sequential for transient error prevention. After that, Prof. Nagendra Prasad Pathak from IIT Roorkee delivered 1 and 1/2 hour talk on RFIC design. The talk is mainly focused on the following points: Design & Characterization Tools; RF Transceiver Fundamentals; Essential Concepts in RF Design; Design of On-Chip Passive RF Circuits; Design of RF Circuits using Semiconductor Solid state Devices and Example of RF/Microwave Wireless Systems. The closing ceremony was graced by Prof. A. K. Saxena, convenor of Microelectronics and VLSI group, ECE Department, IIT Roorkee and Vote of Thanks is given by Prof. Anand Bulusu Faculty Advisor, IEEE CAS Society SBC IIT Roorkee. After that certificates of participation were given to all participants.

Photos



1. Prof. A. Bharadwaj delivering lecture



2. Plenary session (Left to Right: Dr. Krishnapura, Dr. Bharadwaj, and Dr. Das)



3. Participants



4. Participants and Organizers



5. Poster Session



6. Prof. B. P. Das delivering lecture



7. Prof. S. Dasgupta presenting memento to Prof. N. P. Pathak



8. Prof. A.K. Saxena at the closing ceremony