



## SREE VIDYANIKETHAN ENGINEERING COLLEGE

(Autonomous)

Sree Sainath Nagar, Tirupati – 517 102

Department of Electronics and Communication Engineering

Report

on

One Week National Workshop on “**Emerging Trends in VLSI & Signal Processing**”  
Under TEQIP-II during **22-27 August 2016**

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The workshop is of its first kind organized by ECE Department of Sree Vidyanikethan Engineering College inviting around 8 number of Eminent Resource persons from MNIT-Jaipur, CMR Institute of Technology-Benguluru, Jadavpur University-Kolkata, Pondicherry Engineering College-Pondicherry, NITK-Suratkal.

The workshop received tremendous response with 85 number of participants out of which 19 are faculty from various engineering colleges and 66 are from various departments of Sree Vidyanikethan Engineering College (In-house).

### **22 Aug. 2016 (I Day):**

The event started with registrations on 22 August 2016 sharp at 8.30 AM followed by the key note address of the convener describing participants the necessity to upgrade their knowledge and promote research culture which is the need of the hour.

The first session was by Dr. Amit Mahesh Joshi, Asst. Professor from MNIT Jaipur on Architectural level optimization techniques. Various concepts like pipelining, parallelism, Retiming was discussed.

The second session after the tea break was by Dr. Satyasai Jagannath Nanada, MNIT Jaipur discussing applications of adaptive signal processing & Artificial intelligence in signal processing domain.

The narrow lunch break was followed by hands on training on Xilinx Spartan 3E –FPGA based implementation assisted by both the resource persons. Various examples regarding implementation of architectural level optimization techniques were demonstrated.

### **23 Aug. 2016 (II Day):**

Morning session was by Dr. Satyasai Jagannath Nanada discussing various issues in signal processing domain where research can be carried out.

The following session was by Dr. Amit Joshi on recent trends in VLSI domain and research issues that can be carried on in VLSI domain.

The lunch was followed by hands on training in implementation of various Filters, System identification, Adaptive filtering using MATLAB assisted by both the resource persons.

### **24 Aug. 2016 (III Day):**

On the third day Dr. H N Shankar, Dean-Academics & Research, C M R Institute of Technology, Bengaluru discussed about Fourier series and Dirchlets conditions derived from scratch, research avenues in signal processing domain.

On the very day during the second session Dr. R. Muralishankar, Professor, CMR Institute of Technology, Bengaluru discussed Speech Processing and related research areas.

During the afternoon session Mr. Rahul Nyamangoudar, Assistant Professor, CMR Institute of Technology, Bengaluru demonstrated usage of DSK6713 to program one of the twelve on chip codec to generate speech signal and feel how sine with various sampling frequencies feel for our ears and eyes. Various speech processing concepts were demonstrated and practiced during this session under the guidance of three resource persons of the day.

**25 Aug. 2016:**HOLIDAY: SRI KRISHNASTAMI

**26 Aug. 2016 (IV Day):**

On 26th Dr. Subir Kumar Sarkar, Professor and Former Head, Department of Electronics and Telecommunication Engineering, Jadavpur University, Kolkata, West Bengal hosted the session who was one among few researches in india talk about nanoelectronics and the hunger for power reduction in spintronic devices, Single electron Devices for two session with a narrow tea break in between.

Following the lunch Ms. R. Sandana lakshmi, Department of Electronics & Communication Engineering, Pondicherry Engineering College, Pondicherry, young researcher who have changed her gear from wireless communications to Biomedical signal processing applications for serving sick India talk about bio signal processing concepts and research avenues in the domain. She motivated participants in publishing papers, filing patents for societal up-liftment.

**27 Aug. 2016 (V Day):**

On 27 August we had Dr. Pathipati Srihari garu from NITK, Surathkal discussing VLSI signal processing issues and related research avenues during the first two sessions.

During the afternoon session various research opportunities in VLSI signal processing domain were inquired and research related queries from the participants were clarified by the resource person. The technical and query session were followed by short panel discussion on research trends among the participants and resource person. The session and the workshop closed with feedback collection (written, oral), Distribution of participation certificates and a group photo.

The following were the snapshots which give quick glance at activities happened during the period of the workshop during 22-27 August. 2016



Workshop Registrations on 22 Aug. 2016



Participants listening to Dr. Amit Joshi's lecture on Architectural level optimization techniques



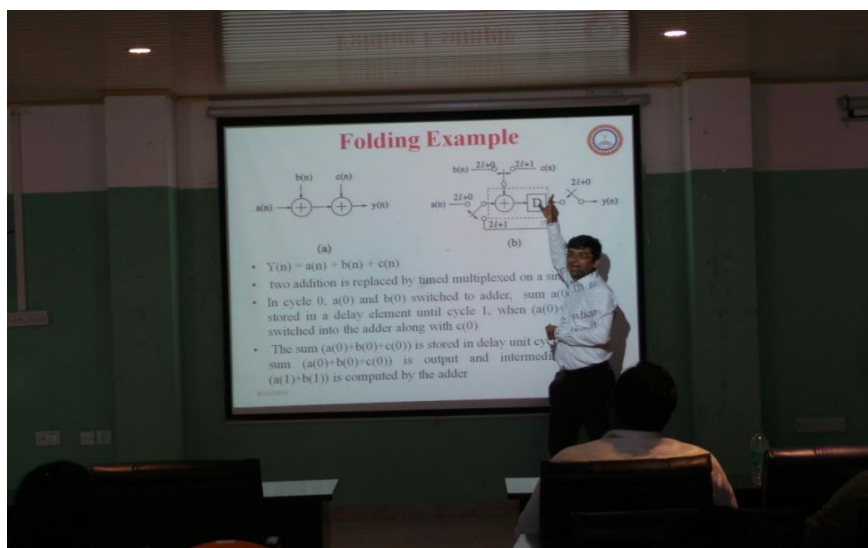
Dr. Satyasai Jagannath Nanada discussing various adaptive signal processing applications



Hands on Training for FPGA Implementation using Spartan3E Xilinx FPGA Tools



Participants interacting with Resource person on 23 Aug. 2016



Resource person lecturing on folding with example



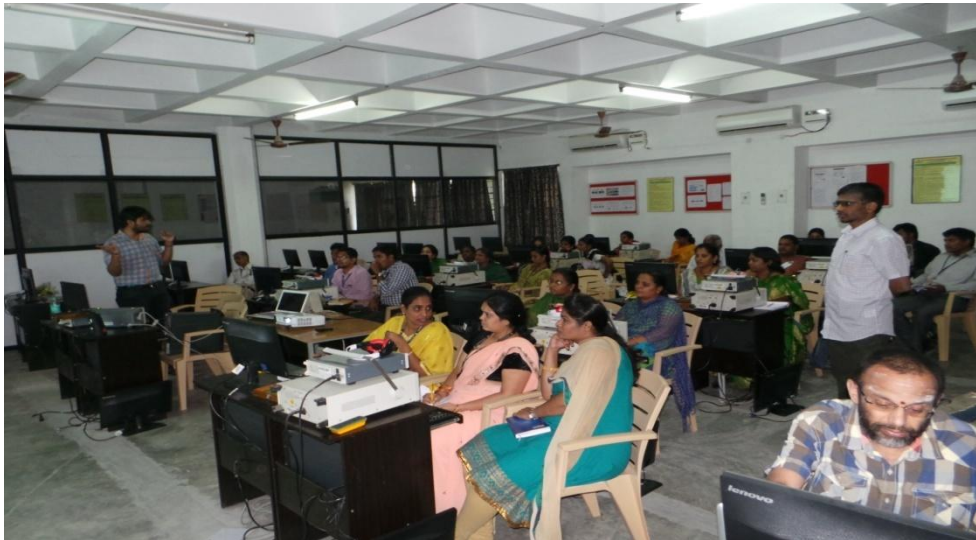
Hands on Training in MATLAB for System Identification



Dr. H. N. Shankar on third day demonstrating Signal processing concepts using MATLAB



Dr. R. Muralishankar discussing Speech Processing and related research areas



Hands on Training by resource persons demonstrating speech processing related concepts using MATLAB



Welcoming Dr. Subir Kumar Sarkar to give lecture on Nano Electronics



Resource Person interacting with participants regarding challenges in Nano Electronics domain



Ms. R. Sandana lakshmi resource person for the session discussing recent trends in Bio-signal Processing domain



Dr. Pathipati Srihari (Resource Person) from NITK, Surathkal discussing VLSI signal processing issues and related research avenues.





Participants clarifying their research queries



Participants receiving certificates from Dr. C. Subhas, Dean Academics & Professor of ECE Department.



Participants (External & Internal) group photo