CENTRE FOR INTEGRATED VLSI SYSTEMS (CVLSI)

Centre for VLSI has been established to build low cost indigenous technologies through Research and Development and to produce high skilled manpower in the field of VLSI and Embedded systems through High Course Work and Research/Industry oriented project.

The centre actively engaged to identify the research problems of industries and it is assigned to the students to carry out the research work as a project under the guide ship of faculty members.

Projects identified and carried out during the academic year 2013-2014 are

- Robust secure scan design against scan based differential cryptanalysis.
- High performance fault detection scheme using AES.
- High performance adaptive FIR filter based on the distributive arithmetic.
- Investigations on Performance Evaluation of CMOS VLSI.
- Pipelined Implementation of OFDM.
- VLSI architecture for Video Compression.

CENTRE FOR CANCER RESEARCH AND MEDICAL IMAGING TECHNOLOGIES (CCRMIT)

Vinayaka Centre for Cancer Research and Medical Imaging Technologies has been set up to save the precious lives of human being from the fatal diseases. The centre focuses on Research and Development activities in the field of Cancer and Medical Imaging using cutting edge technologies in the industry. It helps the student as a platform to exhibit their research bend of mind in the field of oncology with the help of advanced Medical imaging tools, DSP tools and Mammography techniques. In this process CCRMIT work along with Vinayaka Mission’s High-tech Multi Specialty Hospital, Salem to share the knowledge and infrastructure.

Projects identified and carried out during the academic year 2013-2014 are

- Fuzzy based tumor and lymph node detection in thoracic images using soft computing techniques.
- Wireless based fever jacket for infants
- Dynamic irrigation based on solar tracking system with telemetry
- A biosensor based on silver enhanced self-assembled radio frequency antenna.
- Mammograms.
- Medical image segmentation MRI.

CENTRE FOR EMBEDDED SYSTEMS (CES)

Center for embedded systems strives hard to transform the basic research into novel algorithms and their architectural translation into innovative embedded solutions. It serves as a knowledge base to facilitate state of art training in embedded systems engineering through active participation in industrial projects.

In this segment ECE department of VMKV Engineering College and Frontline Electronics made a MoU to support R&D activities in VMKVEC. Based on the objectives of CES the robotics club was opened to all the students by showing their innovations by participating Project Contest, Symposium and Conferences. Club members use the Robot trainer kit to construct and programming to perform tasks autonomously. Students can learn the use of gear combinations to
optimize the efficiency of their robots. We use Renesas Microcontroller software to program the Robot Kit. In the banner of Centre for embedded systems, our students are motivated to participate in Real Time Applications Design Contest to display their model for validation around the world.

Projects identified and carried out during the academic year 2013-2014 are

- Reason finding and identification for accidents using Google map.
- Embedded based sewage water treatment plant.
- Patient health monitoring system using embedded systems.
- A high performance video transform engine by using space time scheduling strategy.
- Adaptive congestion control in wireless networks.