ELECTROVISION

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
Rajagiri School of Engineering & Technology, Kakkanad
January-April 2011, Volume 13

FROM THE H.O.D'S DESK . . .

As every season brings in a different joy in the heart of everyone, each issue of "ELECTROVISION" enthralls me too, because it gives the opportunity to bring out the milestones we reached working together as a family.

Keeping in mind the old saying "All work and no play, makes Jack a dull boy", the creativity hour and enrichment programme were introduced.

The introduction of the creativity hour and enrichment programme along with the academic course work was observed to be better way to reach out the students in a way that stimulates their brains towards a better learning process and also to ease off their burdens for some time. That one hour of "creative" work had a positive and overwhelming response from students.

Apart from teaching the "brains of tomorrow" just the course works, a dash of professionalism & ethics to mould and prepare them to enter the professional world as masterpieces. ED hour surely brought them ahead among the great crowd of competitors.

I hope to see the flag of our institution flutter higher in the sky.

Wishing all our students the very best for their exams. May the almighty shower good wisdom and memory power on you all.

Inauguration of Cypress-RSET PSoC Alliance Lab

As a part of continuous education program with Cypress Semiconductor Technology Bangalore, Department of Electronics & Communication has set up Cypress-RSET PSoC Alliance Lab in PG block.

The inauguration of the same was conducted on 25th April 2011 at 10.30 AM in Conference Hall by ***Mr. Karthikeyan Mahalingam (Program Manager, Cypress University).***

To promote continuous industry-institute interaction, Cypress conducted PSoC training in our campus in September 2010 and granted $1000 worth PSoC hardware to RSET. This lab is a part of continuous education program with Cypress Semiconductor Technology Bangalore.This partnership provides our institution an opportunity to grow at par with industrial standards by using the results of PSoC academic research.

Followed by the inauguration of Cypress-RSET PSoC Alliance Lab Mr. Karthikeyan Mahalingam launched

CIED

(Conquering Imaginations, Expectations & Dreams)

CIED Technologies is an entrepreneurial venture of the students of S4 ECE (Alpha & Beta) headed by ***Mr. Akash Mathew*** *&* ***Mr. Abel Paul Babu.***

Hour of Creativity

Chaired by: ***Fr. Varghese Panthalookaran***

Members: Committee Members ECE Department.

Goal: How to inculcate creative thinking among the students?

Several aspects dealt are:

- *How to begin with the creative hour?*
- *Introduce the need and the importance of the hour.*
- *It should be dealt in such a way that the hour has its due importance and still in a quite relaxed manner so as not to strain the students.*
- *Plan a strategy- set a benchmark.*
    - *A common plan must be followed by the teachers engaging the hour.*
- *Enable the students to think beyond the boundaries or out of the box.*
    - *For example, pick an idea at random and talk about it freely.*

To reach our goal of producing 'Creative thinkers' certain activities were conducted while explaining the students about its importance.

The main aim of introducing this 'Hour of Creativity' was to develop an innovative thinking mind, which is possible only when the free or wild thoughts are properly channelized.

Enrichment Programme

In-charge: ***Ms. Sheeba Kumari M*** *[Enrichment Activity]*

Co-ordinated by: ***Ms. Anita Kulkarni*** *[Industry Orientation]*

17th Feb 2011

Topic: "Project Life cycle" by ***Prof. K S Mathew*** *from Dept. of CSE.*

Target audience: S4 & S6 ECE [α & β]

Venue: Gallery Hall, RSET.

- *Started with introduction – "What is meant by project life cycle?"*
- *"What is the role of it in any project; what is the importance of project life cycle?"*
- *"How it is followed in the Industry?"*
- *"How the complete project is subdivided into groups with proper planning?"*
- *"Different types of project life cycle basically illustrating software and some hardware projects?"*
- *"How the student should also implement the project life cycle during their projects in college?"*
- *Discussed different risks involved in not proper planning of project life cycle.*

10th March 2011

- *Department of Electronics & Communication conducted a Presentation on "Student proposal towards Entrepreneurial Development" by* ***Mr. Abel Paul Babu*** *&* ***Mr. Akash Mathew*** *of S4 ECE α.*
- ***Dr.Fr.Varghese Panthalookaran,*** ***Ms.Asha Panicker,*** *HOD (ECE) and* ***Mr.Vinod Pangracious*** *addressed the gathering and congratulated the students for their creative ideas.*

24th March 2011

Topic: "Professional Ethics" by ***Mr. Sibi Jose*** *from RBSS.*
Target audience: S4 & S6 ECE [α & β].

Venue: Gallery Hall, RSET.

- *What is Ethics?*
- *Evolution of Ethics.*
- *Necessity of Ethics.*
- *What is Professional Ethics?*
- *How students should cultivate professional ethics?*

ELECTRONAUTS Association Activity

Techno-Science Quiz

Event: "Techno-Science Quiz" on 24th Feb'11.
Participants: S4 & S6 ECE [α & β].

Venue: Gallery Hall, RSET.

There were various rounds with questions based on:

- Technical aspects.
- Concepts in science.
- Audio -Visuals.

Winners of the Techno-Science Quiz:

* **Mr.Rejin Johny** & **Mr. Rohin Varghese** (S6ECE β).

Runners-up of the Techno-Science Quiz:

* **Mr.Febin Philip** & **Mr.Abel Paul** (S4ECE α).

Electronics Hobby Workshop

Event: "Electronics Hobby Workshop"

Participants: S4 ECE [α & β].

Duration: 18 hours (13 Dec'10 to 5 Jan'11).

Venue: Gallery Hall, RSET.

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Starting from the fundamentals, the students gained a first time hands on experience on soldering practices on PCBs.

Two batches of students identified for their excellent performance were awarded prizes along with the quiz winners.

The students were: **Mr.Jinto.V.R, Mr.Jerin.P.George** & **Ms.Jincymol Scaria** (of S4 ECE α) & **Ms.Neeta Abiraami.T.N, Ms.Neethu Jose** & **Ms. Neha.P** (of S4 ECE β).

Prizes were distributed by:

- **Fr. Joel George Pullolil**, Dean (Student's Affair)
- **Ms. Asha Panicker**, HOD (ECE).

COURSES & WORKSHOPS

Sl.No:	SEMINARS / WORKSHOPS	VENUE	DATE	FACULTY MEMBERS
1	ARM -9 PROCESSOR	INNOVATIVE SOFTWARE PVT.LTD	Feb 2011	Mr.Jaison Jacob Mr.Anoop Thomas Ms.Sheeba Kumari
2	LABVIEW	KMEA	24th Feb 2011	Ms.Biji.C.L
3	National Seminar on Frontier Technologies in RF Engineering	Division of Electronics Engineering, CUSAT	4th - 5th March 2011	Mr.Ajit Joseph Ms.Deepthy.G.S Ms.Sunitha Wilson Gomez
4	Short Term Training Programme - MOBILE ROBOTS & SENSOR NETWORKS	IITM,Chennai	28th March – 1st April 2011	Ms.Sheeba Kumari

INTERNATIONAL CONFERENCES:

Sl. No:	AUTHORS	TITLE	CONFERENCE	DATE	VENUE
1	Mr.Jaison Jacob (RSET) Ms.Asha Panicker(RSET) Dr.Jimson Mathew (Bristol,UK) Dr.A.P.Vinod(NTU,Singapore)	Exploration of a Distributed Approach for Simulating Spectrum in Cognitive Radio	International Conference on Communication & Signal Processing(ICCSP 2011)	Feb 2011	NIT, Calicut
2	Ms.Deepthy.G.S	Analysis of Successive Interference Cancellation in CDMA systems	International Conference on Computer Science and Information Technology (COSIT 2011)	Jan 2nd -4th , 2011	Bengaluru
3	Ms.Jisa David	Intrusion Detection using Flow based Analysis of Network	International Conference on Computer Science and Information Technology (COSIT 2011)	Jan 2nd -4th , 2011	Bengaluru

CONFERENCES:

Sl. No:	AUTHORS	TITLE	CONFERENCE	DATE	VENUE
1	Ms.Arathi S G (M.Tech ECE Sem-III student) Mr.Pramod G (Assistant Professor, DEC)	A Solution Against DOS Attacks in WIMAX Using Visual Cryptography	International Conference on VLSI, Communication and Instrumentation (ICVCI 2011)	7th - 9th April 2011	SaintGits College of Engineering Kottayam
2	Ms.Anju Suresh (M.Tech ECE Sem-III student) Mr.Pramod G (Assistant Professor, DEC)	Performance Analysis of Adaptive Modulation & Coding Schemes in WiMAX Systems			
3	Ms.Anuja George (M.Tech ECE Sem-III student) Ms.Nisha Thankachan (M.Tech ECE Sem-III student) Ms.Anita Harapanahalli (Assistant Professor, DEC)	A Novel Low Power Design of SRAM cell and its Performance Analysis			
4	Ms.Anisha Natarajan (M.Tech ECE student) Mr.Pramod G (Assistant Professor, DEC)	A Comparative Study of Asynchronous and Synchronous Booth Multiplier Implementations	NET 2011	25th , 26th Feb 2011	Govt. Engineering College, Kozhikode
5	Ms.Linu Rose (M.Tech ECE student) Mr.Pramod G (Assistant Professor, DEC)	Comparative study of low power architectures for 1-bit full adder	NCATT 11	14th Feb 2011	KSR College of Engg, Tiruchengodeg
6	Mr.Arun Radhakrishnan (B.Tech ECE student) Ms.Aleena T Jose (B.Tech ECE student) Mr.Bibin Jacob (B.Tech ECE student) Mr.Edwin Joy (B.Tech ECE student)	Thermal modeling and 3D dimensional integration	AZURE-2011	27th Feb 2011	Amal Jyothi College of Engg

GATE 2011

Sl.No:	NAME	PERCENTILE	CLASS
1	Derik Thomas Kaippallimannil	96.33	S8ECEα
2	Johns George	91.7	
3	Jacob George (29 / 07/ 1989)	90.19	
4	Arjun Surendranath	85.78	
5	Arun Radhakrishnan	92.8	
6	Alexander James	87.94	
7	Basil Kurian	98.48	
8	Arun K.J	94.34	
9	Ajith Babu	92.65	
10	Abeson Babu Varghese	86.5	
11	Elizba Rio Joseph	90	
12	Anita John	85.22	
13	Ambily Mukundan	92.8	
14	Anju James	92	
15	Reshma.K.C	93.8	S8ECEβ
16	R.Neethu	89.97	
17	Soumya Joseph	94	
18	Meghana Jayaraj	93.6	
19	Remya Raghunath	91.43	
20	Rani Maria John	93.28	
21	Nimmy Maria Philip	90.19	
22	Swetha R	88.6	
23	Sumayya .M	87.94	
24	Prince Thomas	96.7	
25	K.S.Nidhin	86	
26	Jose Babu	87.6	
27	Shebin Cyriac	96.8	
28	Sarath Varma.R	92.65	
29	Vivek Ashokan	93.6	
30	Sachin Scaria	86	
31	Sandeep Bhat.S	94.35	
32	Nidhin.R	87.59	
33	Chethan S	92	S6ECEα
34	Nimmy Tresa Chacko	Qualified	S6ECEβ
35	Nicy V Augustine		

CAT 2010-11

Sl.No:	NAME	CLASS
1	Mathews Mathew	S8ECEβ
2	Marelene Jose	
3	Sruthi Vasudevan	
4	Reshma K.C	
5	Ronald Jose	
6	Varun Thomas	
7	Amulya Tom	
8	Anu Mathew	S8ECEα
9	Bincy Baby	

ACHIEVEMENTS

- **Bibin Jacob** of S8ECEA won best Performer award for Amal Jyothi College of engg,'AZURE-2011' on 27th Feb 2011.
- **Febin Philip** of S4ECA won first prize (trophy and Rs.5000) in the Energy and Environment quiz at BPCL, Cochin Refinery, Training Centre, Jwalagiri conducted on 28th Jan 2011.
- Winners of various events in University Youth Festival conducted in Jan 2011:
  - **Akhila V.C** (S4 ECE α)-Bharathanatyam-A Grade
  - **Amal Shaju Joseph** (S1S2 F, ECE) - Classical vocal solo-A grade
  - **Anjana Unnikrishnan** (S8 ECE α) -Essay writing (Eng.)- 1st prize, A grade
  - **Varada Sanathanan Menon** (S4 ECE β) -Mohiniyattom-3rd prize, A grade

Other Activities . . .

- **Sarath Varma** & **Sachin Scaria** of S8ECβ attended a workshop on 'Building and flying micro aerial vehicles at VELTECH UNIVERSITY,Chennai.
- S6ECE α students visited an exhibition on ELECTRICAL & ELECTRONICS EQUIPMENTS at Kaloor International Stadium organized by KELCON on 19th Feb 2011.
- MORDROB proposal for ARC lab was submitted to AICTE. Staff Co-ordinators were **Mr.Pramod G** & **Ms.Anita Kulkarni**.

Courses & Workshops Offered:

- ORCAD Training for students of RSET Started on 7th Feb 2011.Co-ordinators were **Mr.Rony Antony** & **Mr.Rooha Razmid Ahamed**.
- 4 day course on MATLAB for S6 & S8 students started on 5th January 2011 (Course fee Rs.2000 / Rs.1000 for IETE members). Co-ordinators were **Ms.Rithu James**, **Ms.Harsha.A** & **Mr.Sreeraj.K.P**.

SHASTRAJYOTHI 2011

The Department of Electronics and Communication Engineering conducted, SHASTRAJYOTHI, a seminar series of the final year student project for the project ideas to be transferred to their junior batch, on 9th April 2011.

HONOURS LIST (ECE 2011)

RANK	NAME	CLASS
1	PRINCE THOMAS	S8ECE β
2	NEETHU R	S8ECE β
3	DEEPA MARIAM THOMAS	S8ECE α
4	JOHNS GEORGE	S8ECEα
5	MEGHANA JAYARAJ	S8ECEβ
1	NIMMY TRESA CHACKO	S6ECE β
2	HARITHA JOHNS	S6ECE α
3	RINI TREASA SEBASTIAN	S6ECE β
4	NICY V. AUGUSTINE	S6ECE β
5	ANNAMOL ALEX	S6ECE α
1	SHYAMA SREEKUMAR	S4ECE β
2	VAISHNAVI BALAKRISHNAN	S4ECE β
3	NAZRIN P.B.	S4ECE β
4	PRIYA ANNMARY CHENNEMKERIL	S4ECE β
5	SREEJA A.N.	S4ECE β

Sports Day …

The overall sports championship of RSET for the year 2011 was won by the ECE Department.

SHORT TERM COURSES FOR STUDENTS
JUNE 8th to 29th, 2011

ORGANISING COMMITTEE:

Chief Patron: Rev. Fr. Jose Alex CMI, Director, RSET

Patrons: Dr. J. Isaac, Principal, RSET

Dr. A. C. Mathai, Professor Emeritus, RSET

Convener: Ms. Asha Panicker (HOD-ECE)

General Coordinator : Mr. K. Rama Varma (Dean – Continuing Education)

Department Coordinators : Ms. Jisa David, Ms. Preethi Bhaskaran

OrCAD [FOR S5 (ALL BRANCHES)]
Duration: JUNE 20-22, 2011 (18 hours)
Course fee: Rs. 750/-
Certification by: RSET
Course coordinators: Mr. Sreeraj K.P,Mr. Rony Antony P, Mr. Rooha Razmid Ahamed

PIC18F4520 MICROCONTROLLER:
[FOR S5 & S7 (ALL BRANCHES)]
Duration: JUNE 13-17, 2011 (30 hours)
Course fee: Rs. 3000/-
Certification by: RSET
Course coordinators: Mr. Jaison Jacob,Ms. Tressa Michael

ROBOTICS(Offered by EFY Tech Center)
[FOR S5 & S7 (ALL BRANCHES)]
Duration: JUNE 20-29, 2011 (60 hours)
Course fee: Rs. 4500/-*
Certification by: EFY Tech Center
*Subject to a minimum of 30 participants; carry-home kit extra @ Rs. 2000/-

VLSI & EMBEDDED SYSTEM DESIGN:
[FOR S5, S7 & M. Tech (ALL BRANCHES)]
CMOS VLSI Design:
Duration: JUNE 8-10, 2011 (15 hours)
Course fee: Rs. 1500/-
Certification by: RSET
Course coordinators: Mr. Vinod Pangracious, Mr. Pramod G,Mr. Anoop Thomas, Ms. Sheeba Kumari

FPGA based VLSI Design:
Duration: JUNE 20 - 24, 2011 (30 hours)
Course fee: Rs. 3000/-
Certification by: RSET

CAD of VLSI:
Duration: JUNE 27- 29, 2011 (15 hours)
Course fee: Rs. 1000/-
Certification by: RSET

Embedded System Design using ARM based development boards:
Duration: JUNE 13-17, 2011 (30 hours)
Course fee: Rs. 3000/-
Certification by: RSET

LabVIEW [FOR S5, S7, M.Tech (ALL BRANCHES)]
Duration: For S5 JUNE 8-10, 2011 (18 hours)
For S7, M. Tech JUNE 13-17, 2011 (30 hours)
Course fee: Rs. 1000/- for S5;
Rs. 1500/- for S7, M. Tech.
Certification by: RSET
Course coordinators:Mr. Sreeraj K.P.Mr. Rony Antony P, Mr. Rooha Razmid Ahamed

Industrial Training(M.Tech)

DESIGN OF AXI4 INTERCONNECT MATRIX

ANJU SURESH,ARATHI S G

@ EXOR INDIA Pvt Ltd, INFO PARK, KAKKANAD

The objective of the industrial training is to design the AMBA AXI4 interconnect matrix. AMBA AXI4 (Advanced eXtensible Interface 4) is the fourth generation of the AMBA interface specification from ARM. The AXI4 protocol is an industry standard for on-chip communications. The AXI4 specification includes features such as address pipelining, out-of -order completion, and multi-threaded transactions. All of these features, when taken together, allow much higher performance systems than those over other bus architectures. The AMBA AXI4 protocol is targeted at high-performance, high frequency system designs and includes a number of features that makes it suitable for high-speed submicron interconnects. AXI 4 interconnect finds its use in the LCD-Pro Evaluation board which enables evaluation of the LCD-Pro library, a set of flexible, configurable IP cores which can be used to implement versatile and powerful display control, graphics and video applications like Industrial and automated control, Automotive graphics and video systems, Medical monitors and instrumentation, Household consumer products (washing machines, refrigerators), Building automation HMI, Marine systems, Consumer automation (kiosks, vending machines, ATMs) etc.

- Industrial training details
- Literature Survey on AMBA Protocol including AXI 4 version
- Literature Survey on AXI4 interconnect
- Design of AXI4 interconnect matrix
- Coding of AXI4 interconnect matrix.
- Testing of the interconnect matrix.
- Programming Language: VHDL
- Simulation Tool: Modelsim SE 6.5

Embedded System Development for Robotic Applications

Anu Abraham (MV0902),,Aparna Jacob (MV0906)

@ Wipro Technologies, Kakkanad, under guidance of Mr. Manesh Mohan, Technical Consultant

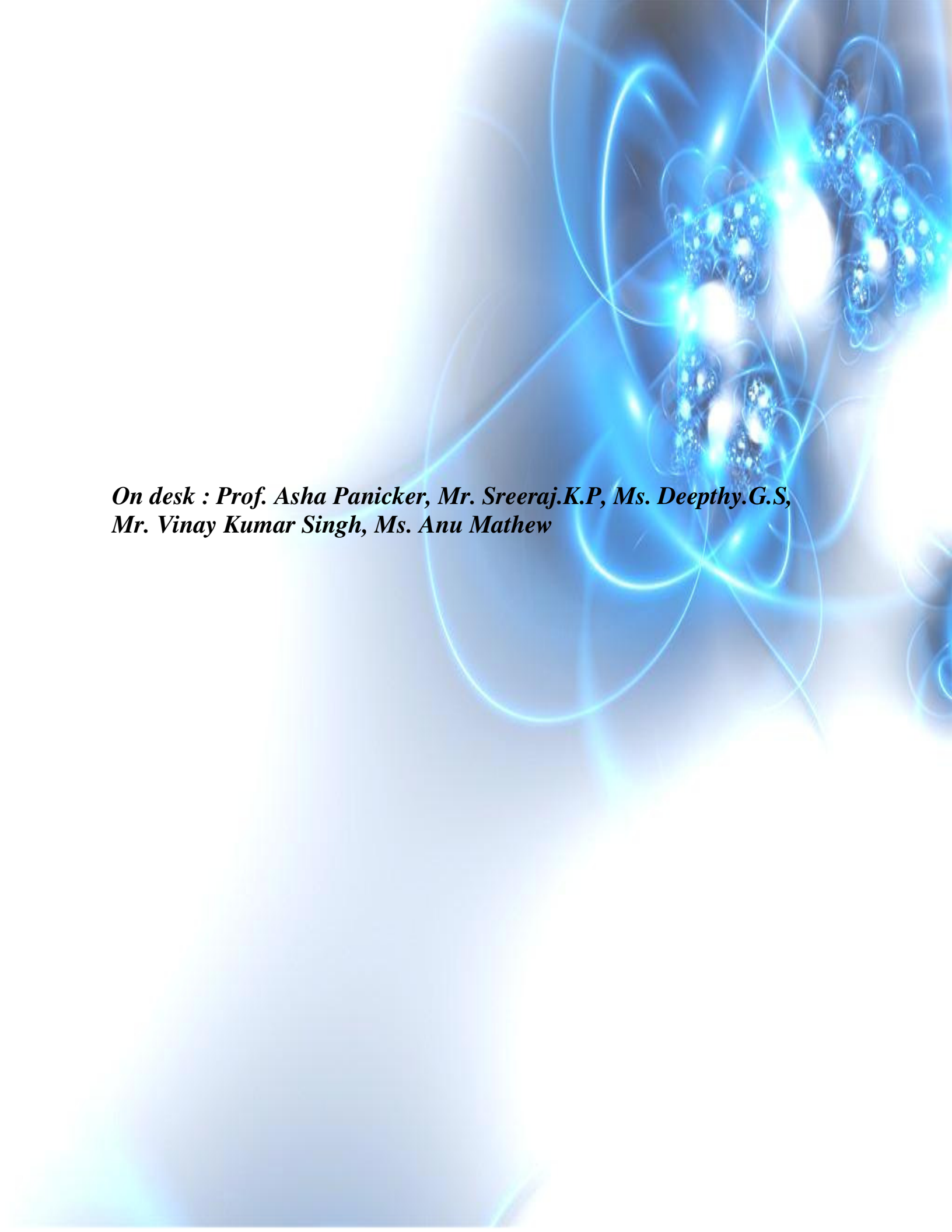
Embedded System Development Cycle starts with Problem Definition and Analysis specific to the application. The whole development cycle, from Problem Identification to the final product development is the core of the work done during the training period. The work was mainly oriented towards Robotic Applications.

Problem Definition and Analysis was done to identify the goal of the application. The Development environment used is Linux, Ubuntu 10.10. The target Boards used are based on AVR architectures, Atmega2560 and Atmega8 microcontrollers. The Programming Language used is C. Coding was done using VI editor, due to its versatility and flexibility.

The applications are created using GNU tools chains for AVR. The toolchain consists of the GNU binutils, compiler set and debugger. GCC compiler for AVR targets is used. The binutils package provides all the low-level utilities needed in building and manipulating object files. The final hex files are flashed to the controller using AVRDUDE. AVRDUDE - AVR Downloader Uploader - is a program for downloading and uploading the on-chip memories of Atmel's AVR microcontrollers. AVRDUDE was used in command line mode, where no GUI is involved. USBasp programmer is used for flashing the hex code in Intel hex format.

Applications were developed for the Firebird V Robotic Platform from 'Nex Robotics'. The main controller on the three wheel robot is ATMEGA2560 Master, with an ATMEga8 slave. Motion Control is achieved using the master microcontroller, H-Bridge circuitry and the DC motor-encoder arrangement in differential drive configuration. Various sensors, including Proximity Sensors, White Line sensors and Range sensors are interfaced to the controllers. Communication to the board is done using the USB, Serial and Zigbee interfaces.

Various applications were developed using different algorithms. 'Obstacle detection with remote control' and 'Line Tracking robot' are some of the main applications developed during the training period.



On desk : Prof. Asha Panicker, Mr. Sreeraj.K.P, Ms. Deepthy.G.S, Mr. Vinay Kumar Singh, Ms. Anu Mathew