

NEW HORIZON COLLEGE OF ENGINEERING

Department of Electronics and Communication Engineering

20.02.2018

GUEST LECTURE

The ECE students are hereby informed that a guest lecture is scheduled on

“Trends in Communication System Design”

on 22.02.2018.

By

Mr. Raveendranath K.R

Lekha Wireless Technologies, Bangalore.

Timing schedule is as follows

| S. No | Timings | Semester |
|-------|---------------------|----------|
| 1 | 09.30 AM - 11.00 AM | 8 |

Respective subject teachers are hereby informed to be present in MBA Seminar Hall during the schedule.

Note: Interested Faculty members are invited to attend the same (without affecting regular classes)

Venue: MBA Seminar Hall

Raveendranath K.R
20/2/18
Guest Lecture Faculty in Charge

Raveendranath K.R
HOD ECE

Summary**Director – RF & FPGA Systems**

20 years of Technical management and hands-on experience in architecting and building Hardware and FPGA systems for communication and Embedded products.

Core competence in Hardware System R&D, Product design and management.

Core Strengths and key responsibility areas

- Led several product development cycles from evolving specifications to deployment and manufacturing
- Good grasp of overall hardware system design - FPGA development, RF Signal chain designs and integration and Digital board designs
- Led design efforts for several RTL IP cores, interfaces, IO controllers.
- Good understanding and hands-on experience in board design and bring up of RF Transceivers and signal chains involving PA's, LNA's, Switches, Duplexers etc. Experience in characterization of RF signal chains and analysis.
- Expertise in HW-SW co-design, design partitioning, Resource estimation and choice of devices, hardware prototyping and System bring-up and characterization
- Strong system level expertise including mechanical and thermal design, design optimizations, design for manufacture, test and compliances
- Project Management, Customer interface, support and maintenance. Have handled several product design cycles for both Corporate and defense customers.

Technical Summary

- Led design teams in building several wireless communication IP's in LTE, DVB and WiMAX
- Led target design and bring-up efforts and integration of IP cores and RF transceivers
- Built systems around variety of architectures right from MPSoC/ Zynq, Ultrascale Kintex series to low power devices in 7 series, Virtex and Kintex, Spartan 3a dsp from Xilinx, Cyclone family from Altera , MachXO2280 and various CPLD and PAL devices
- Strong expertise in hardware and FPGA design flows
- Led several hardware design projects for mobile computing, wireline telephony and VOIP products

Key Project Contributions**At Lekha Wireless**

Primary responsibility has been building a high competence development team for delivery of FPGA and communication hardware for the Lekha product line and customer projects.

- Currently leading a team and responsible for platform delivery for a large LTE Macro-cell productization program. Responsibility includes programmable logic, infrastructure for the signal chain on the platform, RF front end design, and hardware system integration including mechanical design and thermal management.
- Led a development team for design and development of RTL IP Core for a DVB receiver on a Kintex FPGA upto RF Integration
- Have led a RTL development team for LTE UE physical layer components (PUSCH, PUCCH, PRACH, Receive Synchronization, RFE and FEC blocks: Turbo and Viterbi) and FPGA (Xilinx Zynq) integration of L1-L2 interface and radio transceiver
- Architecture and development of FPGA based DSSS data link
- Development of RF transceiver sub-system for a Lekha product (ACT) for broad band data link applications
- FPGA customization and feature additions on MachXO2280 device on the WiMAX CPE platform.
- Development of a Radio front end board for 32dBm output power for TDD and FDD modes of operation for a broadband wireless modem
- Board design involving Baseband FPGA and AD9361 for a communication equipment
- Development of Radio card based on AD9352 for Lekha WiMAX CPE solution
- Leading FPGA efforts for maintenance and feature enhancements for a customer in WiMAX technology
- Leading development effort for FPGA and Hardware design for a Kintex 160 FPGA based wide band radio transceiver design for a customer
- Rapid prototyping of base band building blocks of a next generation MIMO system for a R&D customer
- Feature development and hardware integration for a test equipment for a customer in GPS technology space
- Project management and customer interactions

Previous Experience [Select Case-studies only]

- Hardware and CPLD design for SATHI – a battle field navigation and communication device
- DSP line modem for telemetry and tele-control applications developed for Fuji Electric, Japan
- Hardware and FPGA design for secure fax relay for an Indian customer based on TI DSP 5510 and Spartan 6
- IP phone project based on DSP LSI403LP for Verisilicon
- Reference design for a proprietary silicon (SoC) for DRDO with various peripherals implemented in Cyclone II
- Design of various mobile computing product variants for different applications. Part of the hardware design team for the Simputer – first Indian touch based handheld design in 2001.
- Various customer specific project accounts

Employment Summary

| | |
|----------------|---|
| 2010 till date | Lekha Wireless Solutions Director heading the FPGA and RF Hardware group |
| 2000 – 2010 | Manager – Hardware Design at Encore Software Ltd., Bangalore |
| 1998 – 2000 | Member – R&D TVS Electronics, Chennai |

Education

- BE in Instrumentation & Electronics from Bangalore University – X Rank
- MS in VLSI CAD from Manipal University – First class with Distinction

Membership

- Member of Institution of Electronics and Telecommunication Engineers

Publications

- IEEE Milcom – 2016, "*Agile Cognizant Transceiver link for Mission Critical Applications*", - Amarnadha Reddy Mahasamudram, Ramu Srinivasaiah, Raveendranath KR, Sreenath Ramanath Lekha Wireless Solutions, Bangalore, India
- Number of application notes and internal technical notes on variety of topics

NEW HORIZON COLLEGE OF ENGINEERING
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
VIII Sem "C" Sec

Date **22/02/2018**

GUEST LECTURE

| SNo. | USN | NAME | Signature |
|------|------------|-----------------------|------------------------------|
| 1 | 1NH12EC126 | Yerra Vamsi Krishna | <i>Yerra Vamsi Krishna</i> |
| 2 | 1NH13EC060 | M Srinivasa Ravikanth | <i>M Srinivasa Ravikanth</i> |
| 3 | 1NH13EC079 | PRATHIK M SHANKAR | <i>Prathik M Shankar</i> |
| 4 | 1NH14EC043 | HARISH P | <i>Harish P</i> |
| 5 | 1NH14EC044 | HARISH.T | <i>← AB →</i> |
| 6 | 1NH14EC050 | SONAL GANESH HEGDE | <i>Sonal</i> |
| 7 | 1NH14EC068 | KIRAN R | <i>Kiran R</i> |
| 8 | 1NH14EC109 | SHAMA MOSHIN SHAIK | <i>Shama Moshin Shaik</i> |
| 9 | 1NH14EC110 | S.DIVYA | <i>← AB →</i> |
| 10 | 1NH14EC111 | S.MONICA | <i>← AB →</i> |
| 11 | 1NH14EC112 | SACHIN.R | <i>Sachin R</i> |
| 12 | 1NH14EC113 | SACHIN.R.M | <i>Sachin R.M.</i> |
| 13 | 1NH14EC115 | SAI MANOJ N | <i>AB</i> |
| 14 | 1NH14EC117 | SANJANA.K | <i>Sanjana</i> |
| 15 | 1NH14EC118 | SANJAY S NAYAK | <i>Sanjay S Nayak</i> |
| 16 | 1NH14EC119 | SANTHOSH M | <i>← AB →</i> |
| 17 | 1NH14EC120 | SHARATH KUMAR | <i>Sharath</i> |
| 18 | 1NH14EC121 | SHIVA KUMAR.S | <i>← AB →</i> |
| 19 | 1NH14EC124 | SHREEN JOHN | <i>Shreen John</i> |
| 20 | 1NH14EC126 | SIRISHA S | <i>Sirisha S</i> |
| 21 | 1NH14EC127 | SONIA MAHADEV GOWDA | <i>Sonia Mahadev Gowda</i> |
| 22 | 1NH14EC129 | SOUNDARYA M G | <i>← AB →</i> |
| 23 | 1NH14EC130 | SOWMYA PRIYA.V | <i>Sowmya V</i> |
| 24 | 1NH14EC131 | SOWMYA.N | <i>← AB →</i> |
| 25 | 1NH14EC133 | SUCHITHRA.S | <i>← AB →</i> |
| 26 | 1NH14EC134 | SUSHMITHA.M.A | <i>Sushmitha M.A</i> |
| 27 | 1NH14EC136 | SWATHI.V.S | <i>Swathi V.S</i> |
| 28 | 1NH14EC140 | THULASI.RAM.R | <i>← AB →</i> |
| 29 | 1NH14EC143 | VINAY PRASAD.N | <i>Vinay Prasad N</i> |
| 30 | 1NH14EC145 | SRAVANI YADUGIRI | <i>Sravani</i> |
| 31 | 1NH14EC146 | MAHESWAR REDDY | <i>YMP</i> |
| 32 | 1NH14EC151 | PARBEJ ALAM KHAN | <i>Parbej Alam Khan</i> |
| 33 | 1NH14EC152 | PRANJAL POKHREL | <i>Pranjal Pokhrel</i> |
| 34 | 1NH14EC153 | SURAKSHA CHAUDHARY | <i>← AB →</i> |
| 35 | 1NH14EC155 | VINAY BHANDARI | <i>Vinay Bhandari</i> |
| 36 | 1NH14EC402 | Beulah James | <i>Beulah James</i> |
| 37 | 1NH14EC407 | Jagadish Suramanji | <i>← AB →</i> |
| 38 | 1NH14EC700 | Aaliya Ashfaq | <i>Aaliya Ashfaq</i> |
| 39 | 1NH14EC714 | KANDATI PRAVEEN KUMAR | <i>K. Praveen Kumar</i> |
| 40 | 1NH14EC738 | AKASH BHARDWAJ | <i>← AB →</i> |
| 41 | 1NH14EC739 | AKSHAY KUMAR NAYAKA.R | <i>Akshay</i> |
| 42 | 1NH14EC740 | AMBIKA.M.R | <i>← AB →</i> |
| 43 | 1NH14EC741 | AMRUTHA REDDY.R.G | <i>Amrutha Reddy R.G</i> |

| | | | |
|----|------------|-----------------------|----------------------|
| 44 | 1NH14EC742 | ANTONITA AISHWARYA.A | |
| 45 | 1NH14EC745 | HARISH.P | <i>H. P</i> |
| 46 | 1NH14EC746 | JAYASHREE.R | <i>Jayashree R</i> |
| 47 | 1NH14EC747 | MOHD SAQUIB PASHA | <i>M. S. Pasha</i> |
| 48 | 1NH14EC749 | NAYAN KUMAR.R | |
| 49 | 1NH14EC751 | PRIYA PALK | <i>P. P</i> |
| 50 | 1NH14EC752 | RAMA TONAPI | <i>Ramatonapi</i> |
| 51 | 1NH14EC753 | RIGIL GRACIOUS | |
| 52 | 1NH14EC754 | ROHIT PRASAD.K.M | <i>Rohit P.K.M</i> |
| 53 | 1NH14EC755 | SHRADDHA KIRAN | |
| 54 | 1NH14EC757 | SOUMYA SHREE.C.JAVALI | <i>Soumyashree</i> |
| 55 | 1NH14EC758 | VARSHA G HIREGOUDAR | <i>Varsha</i> |
| 56 | 1NH15EC415 | PRIYANKA P | |
| 57 | 1NH15EC419 | SHIVARAJ D S | <i>S. P</i> |
| 58 | 1NH15EC420 | SHIVARANJAN M | <i>Shivaranjan m</i> |
| 59 | 1NH15EC431 | PREM KUMAR M | <i>P. K. M</i> |

60 1NH14EC707 BHAVANI R
1NH14EC157 Ni Keetha. V

Bhavani . R
Ni Keetha

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NEW HORIZON COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

VIII Sem "B" Sec

Date:

22/02/2018

GUEST LECTURE

| SNo. | USN | NAME | Signature |
|------|------------|------------------------------|---------------------------|
| 1 | 1NH14EC003 | ADARSH GOWDA.A.P | |
| 2 | 1NH14EC004 | AGNES MARIA JAMES | <i>Agnes Maria James</i> |
| 3 | 1NH14EC005 | AGNES SNEHA K | <i>Agnes Sneha K</i> |
| 4 | 1NH14EC009 | ALANKRIT MISHRA | <i>AB</i> |
| 5 | 1NH14EC012 | AMRUTH RAJU G | <i>Amrutha Raju G</i> |
| 6 | 1NH14EC014 | AMRUTHA VARSHINI.B | <i>Amrutha Varshini.B</i> |
| 7 | 1NH14EC017 | ANU.R.REDDY | <i>Anu</i> |
| 8 | 1NH14EC018 | BADA SAI ANIL PRASANNA KUMAR | <i>AB</i> |
| 9 | 1NH14EC020 | BHARATHI.V | <i>AB</i> |
| 10 | 1NH14EC022 | MEGHANA.C | <i>Meghana.C</i> |
| 11 | 1NH14EC024 | CHANDANA.S.M | <i>Chandana.S.M</i> |
| 12 | 1NH14EC027 | DARSHAN.P | |
| 13 | 1NH14EC028 | DEEKSHITHA.R | <i>Deekshitha.R</i> |
| 14 | 1NH14EC029 | DHANUSH R | |
| 15 | 1NH14EC030 | DILIP KUMAR | |
| 16 | 1NH14EC032 | DONDHA NAVEEN KUMAR | |
| 17 | 1NH14EC036 | GAURAV KUMAR GUPTA | |
| 18 | 1NH14EC045 | HARSHA K S | |
| 19 | 1NH14EC048 | HARSHITHA.R | |
| 20 | 1NH14EC049 | HARSHITHA.T.R | |
| 21 | 1NH14EC051 | HEMASHREE G | |
| 22 | 1NH14EC055 | JAYASHREE.T | |
| 23 | 1NH14EC056 | JERLIN.S | |
| 24 | 1NH14EC059 | JAGATHEJESWARA REDDY | |
| 25 | 1NH14EC064 | KARTHIK.K | |
| 26 | 1NH14EC065 | KASHMITHA.D | |
| 27 | 1NH14EC066 | KEERTHANA.R | <i>Keerthana.R</i> |
| 28 | 1NH14EC067 | KIRAN KUMAR R | <i>AB</i> |
| 29 | 1NH14EC069 | KRISHNA PRIYA.S | <i>Krishna Priya.S</i> |
| 30 | 1NH14EC070 | LAKSHMI.M | <i>Lakshmi.M</i> |
| 31 | 1NH14EC071 | MUPPIREDDY SHANMUYA AJAY | <i>AB</i> |
| 32 | 1NH14EC072 | MAHALAKSHMI T S | <i>AB</i> |
| 33 | 1NH14EC073 | MALBIKA SINGH | <i>Malbika</i> |
| 34 | 1NH14EC074 | MALLIKARJUN S PATIL | |
| 35 | 1NH14EC075 | MANASA.H.R | <i>AB</i> |
| 36 | 1NH14EC076 | MANU.N | |
| 37 | 1NH14EC077 | MOHAMMED ASIF.F | <i>AB</i> |
| 38 | 1NH14EC080 | MONIKA YADAV | <i>Monika Yadav</i> |
| 39 | 1NH14EC083 | NANDA GOPAL NAIK | |
| 40 | 1NH14EC088 | NISHAD AVINASH CHINCHWADKAL | |
| 41 | 1NH14EC090 | PALLAVI.G.A | |
| 42 | 1NH14EC092 | PAVAN KUMAR REDDY.A | <i>AB</i> |
| 43 | 1NH14EC093 | PAVITHA.M | |

ABSENT

| | | | |
|----|------------|----------------------------|-----------|
| 44 | 1NH14EC094 | PAWAN KAUSHIK | AB |
| 45 | 1NH14EC096 | PRAKRUTHI.M | Prakruthi |
| 46 | 1NH14EC101 | PUNEETH.N | |
| 47 | 1NH14EC138 | TEJASWINI M | AB |
| 48 | 1NH14EC142 | VARSHA.A | Varsha-A |
| 49 | 1NH14EC154 | ABHIJNAN MITRA | |
| 50 | 1NH14EC156 | PRAHLADA REDDY PEDDI REDDY | |
| 51 | 1NH14EC401 | Anand R | |
| 52 | 1NH14EC427 | Koushik | AB |
| 53 | 1NH14EC431 | RAHUL J U | |
| 54 | 1NH14EC704 | ARUN KUMAR | |
| 55 | 1NH14EC713 | JENNIFER MELISSA | Jennifer |
| 56 | 1NH14EC718 | KETHINENI SUNEETHA | |
| 57 | 1NH14EC728 | PREETHI M S | Preethi |
| 58 | 1NH15EC402 | BHARATH KUMAR N | |
| 59 | 1NH15EC428 | LAVANYA B K | AB |

60 1NH15EC407 GEETHA DS DSGeetha

61 1NH14EC410 POOJA .M M.P.

62 1NH15EC414 Pooja G.G. Pooja

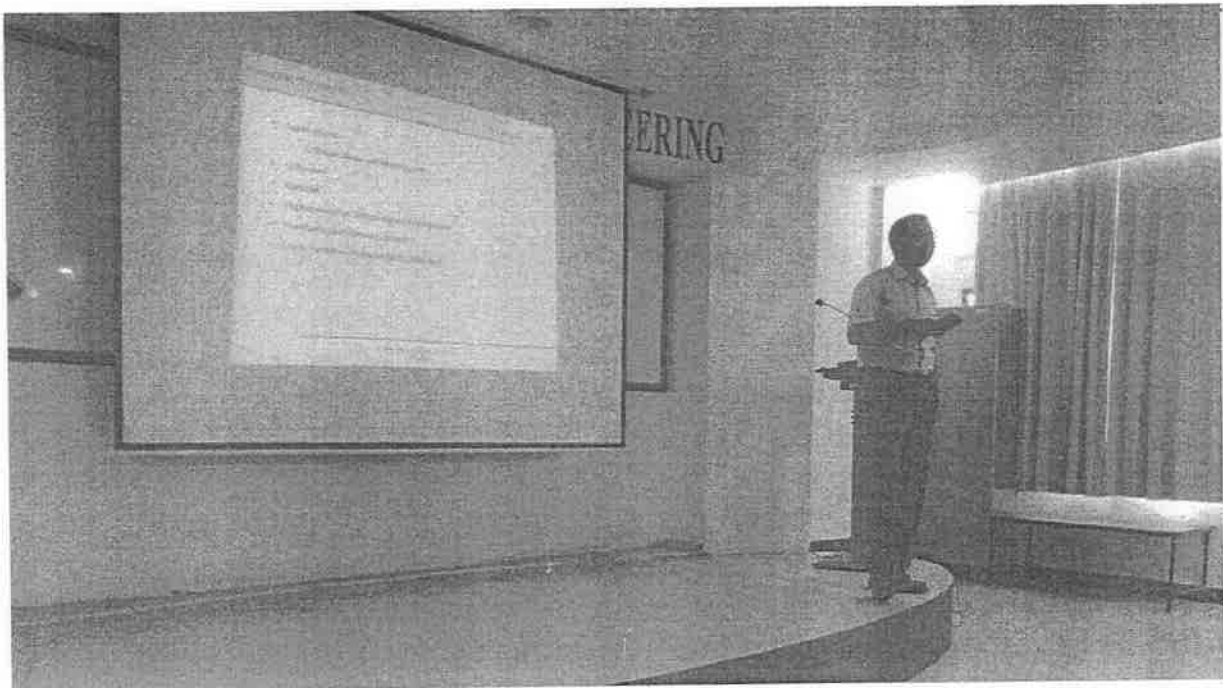
NEW HORIZON COLLEGE OF ENGINEERING

Department of Electronics and Communication Engineering

REPORT ON GUEST LECTURE

The Department of ECE conducted a Guest Lecture on “**Recent Trends in Communication System Design**” on 22/02/2018 by Mr. Raveendranath K R, Director, RF and FPGA systems, Lekha Wirelless Technologies, Bangalore for the students of 8th semester. The speaker concentrated on the fundamentals of the communication field. He mentioned that, technology can change from time to time, but the fundamentals remain unchanged. The interaction was very lively and the students were able to grasp the topic as he discussed various real life examples. The session also gave an insight into the noise margin, sensitivity and other parameters of a communication system. The speaker also gave an introduction to different domains in communication and various aspects to be taken care of while designing a real time communication system.

Photograph



Dr. Raveendranath K R
28/2/18
GUEST LECTURE COORDINATOR

A. Raveendranath
HOD