

5th International Conference on
Advances in Computing and Communications (ICACC-2015)



PROGRAM SCHEDULE

**Rajagiri School of Engineering & Technology, Kakkanad, Kochi
3-5 Sept 2015**

Program Highlights: ICACC 2015 - DAY 1 - 3rd September 2015 (Thursday)					
Venue: Rajagiri School of Engineering & Technology, Kakkanad, Kochi (details in Page 4)					
9:00AM-9:30AM	Registration				
9:30AM-10:30AM	ICACC Inaugural Event: Chief Guest- Shri. Shibu Baby John, Hon. Minister, Govt. of Kerala Venue: M1			Registration	
10:30AM-11:15AM	Keynote: Dr. Rajeev Shorey, Principal Scientist/Researcher at TCS Innovation Labs Venue: M1				
11:15AM-11:30AM	TEA BREAK				
11:30AM-1:00PM	<u>Parallel Technical Sessions</u>				
	<u>Pervasive Computing & Machine Learning –I (PCML-I)</u> Session Chair:- Dr. Babita R. Jose, CUSAT Venue: V1	<u>Fuzzy Based Systems (FBS)</u> Session Chair:- Dr. Abraham Thomas, RSET Venue: V2	<u>Cloud Computing & Data Mining (CCDM)</u> Session Chair:- Fr. Dr. Jaison Paul Mulerickal, RSET Venue: V3	<u>Signal Processing & Security Systems (SPSS)</u> Session Chair:- Dr. Murali Krishna P., NPOL Venue: V4	<u>Cyber Physical Systems (CPS)</u> Session Chair:- Dr. John Jose, IITG Venue: V5
1:00 PM-2:00 PM	LUNCH				
2:00PM – 3:00PM	Plenary 1: Mr. Chidambaram Kollengode, Sr. Director, Engg at DataXu Venue : M1				
3:00PM – 3:10PM	TEA BREAK				
3:10 PM – 5:00 PM	<u>Parallel Technical Sessions</u>				
	<u>Pervasive Computing & Machine Learning –II (PCML-II)</u> Session Chair:- Mr. Aijith S, RSET Venue: V1	<u>Passive Components for RF Applications (PCRA)</u> Session Chair:- Dr. Thomaskutty Mathew, MGU Venue: V2	<u>Wide band & Multi Band Antennas I (WBMA-I)</u> Session Chair:- Dr. Gopikrishna M., MGU Venue: V3	<u>Microelectronics & MEMS (MM)</u> Session Chair:- Dr. Jobimol Jacob, IHRD Venue: V4	<u>Speech & Image Processing I (SIP I)</u> Session Chair:- Dr. Abraham Thomas, RSET Venue: V5
6:30 – 8:30 PM	CULTURAL PROGRAMS			CONFERENCE BANQUET	

Program Highlights: ICACC 2015 - DAY 2 - 4th September 2015 (Friday)					
Venue: Rajagiri School of Engineering & Technology, Kakkanad, Kochi (details in Page 4)					
8:30AM-9:00AM	Registration				
9:00AM-10:00AM	Plenary 2: Dr.Nilesh J. Vasa, Department of Engineering Design, IIT Madras				
	Venue: M1				
10:00 AM-10:15AM	TEA BREAK				
	<u>Parallel Technical Sessions</u>				POSTER PRESENTATION Fifth International Workshop on Advances in Computing and Communications (IWACC-2015) Venue: M2
10:15AM-12:30PM	<u>Wireless Communication: Challenges & Techniques I (WCCT I)</u> <u>Session Chair:- Mr. Jaison Jacob, RSET</u> Venue: V1	<u>Wide band & Multi Band Antennas II (WB MBA – II)</u> <u>Session Chair:- Dr. Lata Christie, MTRDC</u> Venue: V2	<u>Bio-Medical Electronics and Medical Imaging I (BEMI –I)</u> <u>Session Chair:- Dr. Ramkumar, Mothoot Institute of Technology</u> Venue: V3	<u>Speech & Image Processing II (SIP II)</u> <u>Session Chair:- Ms. Meena V, RSET</u> Venue: V4	
12:30 PM-2:00 PM	LUNCH				
2:00 PM-3:00 PM	Plenary 3: Dr. Latha Christie, MTRDC, DRDO, Bangalore				
	Venue: M1				
3:00PM – 3:15PM	TEA BREAK				
	<u>Parallel Technical Sessions</u>				Three Minute Thesis (3MT®) Competition FINAL ROUND Venue: M3
3:15PM – 4:00PM	<u>Wireless Communication: Challenges & Techniques II (WCCT II)</u> <u>Session Chair :- Dr. Neelakantan P C, ASIET, Kalady</u> Venue: V1	<u>Wide band & Multi Band Antennas III (WB MBA III)</u> <u>Session Chair :-Dr.Deepti Das Krishna, RSET</u> Venue: V2	<u>Bio-Medical Electronics and Medical Imaging II (BEMI II)</u> <u>Session Chair:- Prof. Dominic Mathew, RSET</u> Venue: V3	<u>Speech & Image Processing III (SIP III)</u> <u>Session Chair Dr.Vinu Thomas, IHRD</u> Venue: V4	
4:00 – 4:30 PM	Valedictory Function				

Program Highlights: ICACC 2015- DAY 3 - 5th September 2015 (Saturday)		
Venue: Rajagiri School of Engineering & Technology, Kakkanad, Kochi (details in Page 4)		
8:30AM-9:00AM	Tutorial Registration	
9:00AM-10:30AM	Panel Discussion: Shaping Smart Cities: Challenges and Opportunities Venue: M1	
10:30 AM-10:45AM	Q & A session	
10:45AM-11:15AM	TEA BREAK	
11.15AM-1.00PM	Parallel Tutorials Sessions	
	<p style="text-align: center;">Tutorial 1 Smart City Technologies of Cloud, BigData, HPC and Internet of Things <i>"The smart citizen and the fourth paradigm"</i> by Prof. Gangan Pratap, Hon. Professor, Kerala Technological University, TVM (Former VC, CUSAT) Venue: M1</p>	<p style="text-align: center;">Tutorial 2 Smart Chips with On-board Interconnection Networks Team Led by Dr. John Jose (Computer Science Engineering Department, IIT Guwahati) PART 1 Venue: M4</p>
1:00 PM-2:00 PM	LUNCH	
2:00 PM-4:00 PM	Parallel Tutorials Sessions (contd..)	
	<p style="text-align: center;">Tutorial 1 Smart City Technologies of Cloud, BigData, HPC and Internet of Things <i>"Shaping smart cities in an era of information explosion"</i> by Dr Fr Jaison Mulerikkal CMI, Department of Computer Science, Rajagiri School of Engineering & Technology Venue: M1</p>	<p style="text-align: center;">Tutorial 2 Smart Chips with On-board Interconnection Networks Team Led by Dr. John Jose (Computer Science Engineering Department, IIT Guwahati) PART 2 Venue: M4</p>
4:00 – 4:30 PM	TEA and PROGRAM ENDS	

Venue Details

M1	Multimedia Hall, Main Block (Ground Floor)
M2	Ground Floor (near M1) , Main Block
M3	Gallery Hall, PG Block (Ground Floor)
M4	CCF Lab, Main Block (First Floor)
V1	MTech VAES S1S2, PG Block (Second Floor)
V2	MTech SP S1S2, PG Block (Second Floor)
V3	MTech NE S1S2, PG Block (Second Floor)
V4	MTech IDAC S1S2, PG Block (Second Floor)
V5	MTech COMM S1S2, PG Block (Second Floor)

Inauguration

Programme Schedule

9.30 am - 9.33 am: Prayer

9.33 am - 9.40 am: Welcome Address Rev. Dr. Antony Kariyil CMI, Director, RSET

9.40 am - 9.50 am: Presidential Address Rev. Dr. Jose Cletus Plackal CMI Provincial, SH Province, & Manager, RSET

9.50 am – 10:05 am: Inaugural Address by Chief Guest Shri. Shibu Baby John .Honorable Minister for Labor and Rehabilitation of Kerala State

10:05 am - 10:10 am: Conference Proceedings Release: Hon'ble Minister

10:10 am - 10:20 am: Felicitation Dr A Unnikrishnan, Principal RSET

10:20 am - 10.30 am: Felicitation by Guest of Honor- Dr. Rajeev Shorey, Principal Scientist/Researcher at TCS Innovation Labs

10.30 am - 10.40 am: Vote of Thanks Dr John M George, Vice-Principal,RSET

Key Note



Dr. Rajeev Shorey

Principal Scientist/Researcher at TCS Innovation Labs, Bangalore

Title of the Talk: **'Recent Advances in Internet of Things (IoT): Research Directions, Applications and Emerging Services'**

Abstract:

Internet of Things (IoT) is broadly defined as the merging of the physical and the digital worlds. The IoT paradigm is moving firmly from hype to reality. IoT has a multitude of potential use cases that are likely to hugely benefit several sectors – from transportation, energy and healthcare to supply chain management, smart manufacturing and smart homes. In the last few years, several organizations across the world are looking to exploit IoT in order to better understand and enhance their businesses.

In this talk, we highlight the key developments, technical & research challenges in IoT. We take a detailed look at several applications that span diverse verticals. More specifically we discuss examples from the Automotive, Manufacturing and the Healthcare sectors and attempt to convince the researchers and the practitioners on the massive power of IoT.

IoT is a highly complex yet critical technical space that promises huge benefits to mankind. What the future will look like is anyone's guess!

About the Speaker

Dr. Rajeev Shorey is the Principal Scientist at the TCS Innovation Lab, Cincinnati, USA and Bangalore, India. Prior to joining TCS Innovation Labs, Rajeev was the Program Director at IT Research Academy, Media Lab Asia, Dept of Electronics & IT, Government of India. He was the (Founder) President of NIIT University, India.

Dr. Shorey received his Ph.D and MS (Engg) in Electrical Communication Engineering from the Indian Institute of Science (IISc), Bangalore, India in 1997 and 1991 respectively. He received his B.E degree in Computer Science and Engineering from IISc, Bangalore in 1987 and the B. Sc degree from St. Stephen's College, Delhi University in 1984.

Dr. Shorey's career spans several reputed research labs – General Motors (GM) India Science Laboratory (ISL), IBM India Research Laboratory and SASKEN Technologies. He was an adjunct faculty in the Computer Science Dept at IIT, Delhi from 1998 to 2005. He was a faculty in the Computer Science Dept at the National University of Singapore from 2003 to 2004, while on leave from IBM Research Labs in New Delhi.

Dr. Shorey's work has resulted in more than 50 publications in international journals and conferences and several US patents, all in the area of wireless, wired networks, including wireless security. He has 12 issued US patents and several pending US patents to his credit. His areas of interest are Wireless Networks, Internet, Telecommunications, Telematics, Data Security and Data Analytics.

Dr. Shorey has served on the Editorial boards of IEEE Transactions on Mobile Computing and is currently serving on the Editorial board of WINET (Wireless Networks Journal of Mobile Communication, Computation and Information) journal. He is the editor of the book titled "Mobile, Wireless and Sensor Networks: Technology, Applications and Future Directions" published by John Wiley, US in March 2006. Dr. Shorey has given numerous talks, tutorials and seminars in industry and academia all over the world. He is the founding member of the Communication Systems & Networks (COMSNETS) conference in India.

For his contributions in the area of Communication Networks, Dr. Shorey was elected a Fellow of the Indian National Academy of Engineering in 2007. Dr. Shorey was recognized by ACM as a Distinguished Scientist in December 2014. He is a Fellow of the Institution of Electronics and Telecommunication Engineers, India.

DAY 1 Forenoon Session

PCML-1: Pervasive Computing & Machine Learning

C_31- Design Defect Diagnosis in a buggy model of SPARC T1 Processor using Random Test Program Generator

Lekha Pankaj, Nutan Hegde and Brijmohan K

C_217- HiPAD: High Performance Adaptive Deflection Router for On Chip Mesh Networks

Simi Sleeba, John Jose and Mini M.G.

C_297- Implementation of NTCIP in Road Traffic Controllers for Traffic Signal Coordination

Surekha Reddy Bandela, SathyanarayanaFn Krishnamurthy and Ravikumar P

C_321- Scalable Ethernet Architecture using SDN by Suppressing Broadcast Traffic

Naseela Jehan and Aneesh M. Haneef

C_350- Implementation of particle filters for single target tracking using CUDA

Bhavya Goyal, Dr Roheet Bhatnagar, Tarun Budhraj and Chandan Shivkumar

C_621- Forecasting of Significant Wave Height using Support Vector Regression

Ajeesh K

C_622- Learning of Generic Vision Features using Deep CNN

Kanishka Nithin and Bagavathi Sivakumar

FBS: Fuzzy Based Systems

C_14- Application of Interval Valued Intuitionistic Fuzzy Soft Set in Investment Decision Making

Anjan Mukherjee and Ajoy Das

C_221- Fuzzy Cautious Adaptive Random Early Detection for Heterogeneous Network

Ravija Shah and Ashwini Patil

C_409- On Ranking in Triangular Intuitionistic Fuzzy Multi Criteria Decision Making under (α, β) -cut with 'Useful' Parametric Entropy

Neeraj Gandotra, Rakesh Kumar Bajaj and Jimson Mathew

C_677- A Self Tuning Hybrid Fuzzy-PID Controller for first order Hydraulic systems

Jithish J, Arun Nath K S, Biju C Oommen and Deepa Sivan

CCDM: Cloud Computing & Data Mining

C_71- A Comparative Study of OpenStack and CloudStack

Jaison Mulerikkal and Yedhu Sastri

C_126- AutoScaling of VM in Private and Public Cloud Environment with Debt Assessment

Sruthy Santhosh and Binu A

C_273- Load Balancing Of Tasks in Cloud Computing Environment Based On Bee Colony Algorithm

Amaya Anna Joy, Remesh Babu Raman and Philip Samuel

C_374- A Novel Approach for Clustering High-Dimensional Data using Kernel Hubness

Amina M and Syed Farook K

C_380- Mining Professional's Data from LinkedIn

Puneet Garg, Rinkle Rani and Sumit Miglani

C_620- Dynamic Data Replication Strategy in Cloud Environments

Jayalakshmi D S, Rashmi Ranjana T P and Srinivasan R

SPSS: Signal Processing and Security Systems

C_149: Eigen value computation based approach for reduced order modeling of interval systems

Anju Kalangadan, Priya N. and Sunil Kumar T.K.

C_207: A Double Security Approach for Visual Cryptography using Transform Domain

Arya Ravikumar and L. Mredhula

C_246: Computing Privacy risk and Trustworthiness of users in SNSs....

Akansha Pandey, Annie Irfan, Kuldeep Kumar and Venkatesan S

C_323: Design and performance analysis of a High speed MAC using different multipliers

Priyanka Mavuri and Balamurugan V

C_354: State space representation of Fractional-Order Low-Pass Filters

Roshni Rajan, Harsha A and Rithu James

C_535: Prediction of Future Possible Offender's Network and Role of Offenders

Sushant Bharti and Ashutosh Mishra

C_647: On-The Fly Encryption Security in Remote Storage

Savin P S, Arun Prabhakar and Chandrasekaran K

C_670: Design and Analysis of a Novel High Speed Adder Based Hardware Efficient Discrete Cosine Transform (DCT)

K Ravi Kiran, Prof C Ashok Kumar and Suresh Kumar M

CPS: Cyber Physical Systems

C_177: Performance Analysis of Big Data Gathering in Wireless Sensor Network Using an EM Based Clustering Scheme

Suja G J, Sangeetha Jose, Remesh Babu Raman and Philip Samuel

C_222: Energy Efficient Intrusion Detection Scheme based on Bayesian Energy Prediction in WSN

Shailaja Shelke and Ashwini Patil

C_324: A novel anomaly detection algorithm for WSN 4

Aswathy Balakrishnan and Rino Pc

C_438: SDFS: Secured Data Forwarding With Minimum Selfishness and Message Overhead in Mobile Wireless Network

Bency Wilson and Preetha K.G

C_449: Node Localization in Wireless Sensor Networks by Artificial Immune System

Minu Mubarak C, Rejith K N and Gopakumar A

C_598: Distributed Energy Efficient Heterogeneous Clustering in Wireless Sensor Network

Mariam Shaji and Ajith S

Plenary 1



Mr. Chidambaram Kollengode,
Sr. Director, Engg at DataXu

Title of the Talk:

Cloud and Big Data Analytics

About the Speaker

Leadership role in Cloud Services with the track-record of delivering large scale applications that went into production and well-received by consumers - enterprise and individuals. Adept in working with/managing the open source community and products for appropriate adoption into business solutions. Previous work experience at Yahoo!, Amazon, IMS Health; Education is at Penn State University, USA

DAY 1 Afternoon Session

PCML-2: Pervasive Computing & Machine Learning

C_138- An Algorithmic Approach for General Video Summarization

Jina Varghese and K N Ramachandran Nair

C_179- Tamil to Malayalam Transliteration

Kavitha Raju, Sreerekha T V, Vidya P V, P C Reghu Raj and Rajeev R R

C_402- Multilingual Online Handwriting Recognition System: An Android App

Indhu Tr, V Vidya and Bhadran V K

C_414- Multi-posture human detection based on hybrid HOG-BO feature

Jain Stoble B and Sreeraj M

C_436- Enhancing the Accuracy of Movie Recommendation System Based on Probabilistic Data structure and Graph Database

Ashish Sharma and Dr. Shalini Batra

C_488- Associative Memory Model for Distorted On-line Devanagari Character Recognition

Gaurav Pagare and Karun Verma

PCRA: Passive Components for RF Applications

C_28- Design of New Metamaterial Absorber with Triple band for Radar Cross Section Reduction

Ramya Sekar and Srinivasa Rao I

C_470- Design of Microstrip Meandered Dual Mode Wideband Bandpass Filter Using Quarter Wavelength Stubs

K.G. Avinash and I. Srinivasa Rao

C_473- Microstrip Bandstop Filters Based On Hexagonal Complementary Split Ring Resonators

Manju Bhaskar, Jasmi Jalaludeen and Thomaskutty Mathew

C_483 - Complementary Phase Power Divider Feed for Dipole Antenna Specific to GSM 900 Base Station Applications

Venkatanarayana Chittela, Suresh Kotapati and D Venkata Ratnam

C_660-Compact Band Notched UWB Filter for Wireless Communication Applications

Bindu C J, Binu Paul, Mridula S and Mohanan P

WBMBA I: Wide Band and Multi Band Antennas I

C_5-High Gain Coplanar Feed Ultra Wide Band Wearable Antenna Using Artificial Magnetic Conductors

Ajith Jose and Shona Kappan

C_35- CPW fed Wideband Printed Antenna for Wireless Communications

Dr. Nishamol M S

C_39- A Novel Circular Fractal Antenna with Band Notch Characteristics for UWB Applications

Indranil Acharya and Divyanshu Upadhyay

C_50- Specific Absorption Rate (SAR) Reduced Mobile Phone Antenna Designs

Anu Tharakan, Deepthi J, Divya Sebastian A, Gopika J and Deepti Das Krishna

C_196- A 2.4GHz Polarization Reconfigurable Metasurface Antenna

Najla Mohammed Sali and Binu Paul

MM: Microelectronics & MEMS

C_79: A Linear Like Methodology for Source Allocation and Biasing Design of Non-Linear Devices in Analog Circuits

R Rohith Krishnan and S Krishnakumar

C_137: Design and Simulation of a Micro Hotplate using COMSOL Multiphysics for MEMS Based Gas Sensor

Steffy Joy and Jobin K Antony

C_386: Design space exploration of 14nm Gate All around MOSFET

Rafeek Alas and Kiran Bailey

C_452: A Novel Approach for Design, Implementation and Construction of Low Density Parity Check (LDPC) Memory

Karthik M, Harshitha B and Vinayak Tambralli

SIP I: Speech and Image Processing

C_43: Image Denoising using Adaptive PCA and SVD

Rithu James, Anita Mariam Jolly, Anjali C and Dimple Michael

C_58: Image Denoising Using Multiresolution Analysis and Nonlinear Filtering

Malini Sasikumar and Moni R S

C_62: A Novel Approach for Car License Plate Detection Based on Vertical Edges

Ashwathy Dev

C_74: Automatic Recognition of Birds through Spectral Analysis

Aparna P C

C_77: A Linguistic Color Space for Image Enhancement

Reshmalakshmi Chandrasekharan and Sasikumar M

C_82: CS based Acoustic Source localization and sparse reconstruction using greedy algorithms.

Jinu Joseph, N.Suresh Kumar, Rema Devi M and Krishna Kumar K.P

Plenary 2



Dr. Nilesh J. Vasa

Professor & Head, Department of Engineering Design, IIT MadrasXu

Abstract of the Talk:

Recent Advances in Optical Techniques for Trace Gas Sensing and Pollutant Monitoring

The last decade or so has been a renaissance in the field of optoelectronics and their applications to industry, communications and medicine. Although the emphasis is being on the development of optoelectronic devices, applications of solid-state and diode lasers in sensing, environmental monitoring instrumentation have increased significantly. In the talk, recent advances in application of different optical techniques for mixed gas sensing in combustion analysis and environmental monitoring will be discussed. Further, ultraviolet photo-ionization based differential mobility sensor application for health monitoring will be described. In addition, applications of laser induced breakdown spectroscopy technique for surface characteristics and element analysis will be presented.

Keywords: Combustion analysis, gas sensing, environmental monitoring, health monitoring, elemental analysis

About the Speaker

Nilesh J. Vasa received his Bachelor of Engineering degree in Production Engineering from Mumbai University, Master of Technology degree in Mechanical Engineering from Indian Institute of Technology Madras (IIT Madras) and Doctorate of Engineering degree in Electronic Device Engineering from Kyushu University, Japan in 1988, 1990 and 1997, respectively. From 1997 to 2005, he was a faculty member at Kyushu University. Since 2006, he is a faculty member at the Department of Engineering Design at IIT Madras. He has received a JASSO Fellowship (Japan) in 2009 and an IITM-DAAD (German) STAR Fellowship in 2011. He was appointed as a visiting faculty member at Kyushu University for a short-term in 2015. He is also a member of the Green Asia Program at Kyushu University. He has authored or co-authored over 60 journal publications and 120 international conference presentations. Specific research interests include laser assisted sensing and combustion analysis, biomedical sensing, laser assisted annealing and texturing of photovoltaic films, pulsed laser deposition technique for functional thin films and optomechatronic devices.

DAY 2 Forenoon Session

WCCT I: Wireless Communication: Challenges & Techniques

C_68 - A Probabilistic Model for Link Duration in Vehicular Ad Hoc Networks under Rayleigh Fading Channel Conditions

Siddharth Shelly and Babu A V

C_115 -Improved Random Access Protocol for Cooperative Spectrum Sensing in Cognitive Radio Networks

K M Aneeshya Rose and M G Jibukumar

C_118- Fariness Improvement in OFDMA Femtocell Networks

Sandhya Y. A., Swapna P. S. and Sakuntala S. Pillai

C_134- A hybrid Multi-User Interference Cancellation Scheme for Carrier Frequency Offset Compensation in Uplink OFDMA

Noufal P and Harishkumar Ch

C_200-Triangular Patch Bandstop Filter for Wireless Communication Applications

Vikas M S, Harikrishnan A I and S Mridula

C_220- Implementation of Block Diagonalization Type Precoding Algorithms for IEEE 802.11ac Systems

Ishhanie Majumdar and Devendra Jalihal

C_365- Multipath Load Balancing Technique for Congestion Control in Mobile Ad Hoc Networks

Sujata Mallapur, Siddarama Patil and Jayashree Agarkhed

WBMBA-II: Wide band & Multi Band Antennas

C_227-Microwave Sensor Antenna for Soil Moisture Measurement

A.S Pathma Priyaa, Adil Mohammed, C Ambili, N.S Anusree, Anne Varghese Thekekar, R Rajesh Mohan and S Mridula-

C_238- A Cost Effective Log Periodic Dipole Antenna

Tessa Mathew, Jerin Jose, Mahima Cherian, Annu Thomas and Haripriya N

C_403- Design of notch Cut Circularly Polarized Circular Microstrip Antenna

Amit Deshmukh, Saleha Shaikh, Ami Desai, Kshitij Lele and Shafin Nagarbowdi

C_404-Modified Rectangular Ultra Wideband Microstrip Antenna

Amit Deshmukh, Ami Desai, Saleha Shaikh, Kshitij Lele, Shafin Nagarbowdi and Kamala Prasan Ray

C_440- 2.6GHz Planar Dipole Antenna over High Impedance Surface

Rahul B, Libi Mol V A, Biju Gopal, Sree Prakash and Dr. C.K Aanandan

BEMI –I: Bio-Medical Electronics and Medical Imaging

C_32: Modified iterative reconstruction algorithm for spiral MRI

Anju George and Ajay Kumar

C_72: The K-Means Clustering Based Fuzzy Edge Detection Technique On MRI Image

Neha Mathur, Pankaj Dadheech and Mukesh Kumar Gupta

C_113: Design and Implementation of a Spread Spectrum based Radar Altimeter

Liz Zacharia, M.J. Lal, M.G. Jibukumar and T.J Apren

C_155: A General Approach for Color Feature Extraction of Microorganisms in Urine Smear Images

Shaez Usman Abdulla, Hridya T.G. and Vrinda V Nair

C_163: Clustering DNA Sequences of Aspergillus Fumigatus Using Incremental Multiple Medoids

Teena Ajayan, Sony P, Janu R Panicker and Shailesh S

C_201: A multi-illumination multi-frequency approach for early detection of breast tumor by mode-matching method

Athira A R, Anjit T A and Mythili P

C_212: Interactive Gesture based Cataract Surgery Simulation

Akshay Jayakumar, Prema Nedungadi, Beena Mathew and Uma N

SIP II: Speech and Image Processing

C_95: Low Illumination Image Enhancement Algorithm Using Iterative Recursive Filter and Visual Gamma Transformation Function

Dayana David

C_100: Optimized Gurmukhi Text Recognition from Signboard Images Captured By Mobile Camera Using Structural Features

Triptinder Pal Kaur and Naresh Garg

C_129: An Improved Algorithm for Fingerprint Compression Based On Sparse Representation

Sinju P Elias and Mythili P

C_164: Ring Partition and DWT based Perceptual Image Hashing with Application to Indexing and Retrieval of Near-Identical Images

Govindaraj P and Sandeep R

C_169:- Steganographic Technique Using Secure Adaptive Pixel Pair Matching for Embedding Multiple Datatypes in Images

Edwina Alias T., Dominic Mathew and Abraham Thomas

C_195: Satellite Image Fusion Based On Improved Fast Discrete Curvelet Transforms

K. Jemseera and P. Noufal

Plenary 3



Dr.Latha Christie

Scientist 'G' and the Associate Director in Microwave Tubes Research and Development Centre, DRDO, Ministry of Defence, Bangalore

Abstract of the Talk:

Latest Advances in mm-wave and sub mm-wave Technologies

Technologies based on the mm-wave and sub mm-wave is of greater interests due to the need for high performance and high data rate communication systems. They offer narrow beam, high resolution antennas that are essential for intelligent computer control guidance, command systems for space applications and sensors. Also the recent advances in sub mm-wave detectors and sources have helped molecular astronomers, chemical spectroscopists, and also in various applications like detecting water content of bulk paper, in measuring the radar cross-section of enormous ships and aircrafts on small scale models and in imaging. Implementing mm-wave and sub mm-wave circuits and systems presents engineering challenges that do not exist at lower frequencies, due to both the physical dimensions defined by the wavelength and the device properties. In the talk, some of the latest advances in mm- wave and sub mm-wave sources, imaging techniques, high data rate communications will be discussed. Also the recent micro fabrication technologies based on LIGA or DRIE to build high aspect ratio planar structures suitable for sources like Extended Interaction Klystron and Oscillators will be presented.

Keywords: High data rate communication, THz Imaging, mm-wave and sub mm-wave sources, Micro fabrication techniques, Extended Interaction Klystrons.

About the Speaker

Latha Christie is presently working as Scientist 'G' and the Associate Director in Microwave Tubes Research and Development Centre, DRDO, Ministry of Defence, Bangalore and has around 28 of years' experience in DRDO. She received her Ph.D. (Engg) and MSc (Engg.) from Indian Institute of Science, Bangalore in 2007 and 2001 respectively and BE (Hons) from GCE, Tamilnadu in 1986. She is the Project Leader, Divisional Head for the Personnel Division and HR Division and the Chair-person of Women's cell. She is the recipient of various awards like the AGNI Award for Excellence in Self-Reliance, DRDO technology award, and Best Technical Paper awards for many authored and co-authored papers. She has a patent, a technical book, a book of social works and around 40 publications in International journals and conferences.

Her research interests are in the field of Microwave Engineering, Traveling wave Tubes, Computer aided design and Techniques, Computational Electromagnetics, various Numerical Techniques, Coupling and Matching Structures etc.

DAY 2 Afternoon Session

WCCT II: Wireless Communication: Challenges & Techniques

C_422 -Low Complexity Acoustic DOA Estimation with a Pair of Orthogonal Dipoles and an Omni Directional Sensor

Murali Krishna. P, Rajesh Padmanabhan and Sadanandhan. G. K

C_433- Wavelet-Based Gaussian Impulse generation and Optimization for UWB Communication

V Vinod Kumar, V Ajith and Dr. M.Meenakshi

C_460- A Modified broadcast algorithm for Multi-hop Relay MANETs

Chinthu Rajmohan, Muhammed Ilyas H and Renjith S R

C_613 -Analysis of MIMO OFDM Based WiMAX System with LDPC

Monika Cheema and Sukanya Kulkarni

637-Microwave Signal Generation and Noise Reduction Using Cascaded MZM for Radar Applications

Fayza K A, Meeva P A, Asha Maria Joseph, Meena D and Srinivas Talabattula

C_242-Analysis of Propagation Characteristics of Circular Waveguide Loaded with Dielectric Discs using Coupled Integral Equation Technique

WBMBA-III: Wide band & Multi Band Antennas

C_557- Broadband 900 Isosceles Triangular Microstrip Antenna

Amit Deshmukh, Shafin Nagarbowdi, Ami Desai, Saleha Shaikh, Kshitij Lele and Kamala Prasan Ray

C_558-Broadband Rectangular Slot Cut Shorted 900 Sectoral Microstrip Antenna

Amit Deshmukh, Kshitij Lele, Ami Desai, Saleha Shaikhand Shafin Nagarbowdi

C_595-CPW- Fed Compact Multiband Antennas Using Circular Monopole with Hexagonal Slot

Saira Joseph, Binu Paul, Mridula Shanta and Mohanan Pezholil

C_606- Linear Antenna Array Synthesis to Reduce the Interference in the Side Lobe using Continuous Genetic Algorithm

Smita Banerjee and Dr. Ved Vyas Dwivedi

C_679- Double Step Junction Coupled Waveguide fed Dielectric Resonator Antenna

Jasmine Muhammed, Abdulla Parambil and Raphika Muhammed

BEMI –II: Bio-Medical Electronics and Medical Imaging

C_277: Pectoral Muscle Boundary detection in Mammograms using homogeneous contours

Rekha Lakshmanan, Shiji T P, Suma M.Jacob, Thara Pratab and Vinu Thomas

C_286: Identification of Ethane-Ethylene Distillation Column using Neural Network and ANFIS

Abdul Jaleel and K Aparna

C_632: Microwave Based Biosensor for Blood Glucose Monitoring

Divya Sathyanath, M.P. Jayakrishnan, Thushara H.P., Dr.S Mridula and Dr.P. Mohanan

C_663: Automatic Detection and Classification of Liver Lesions from CT scan images

Ria Benny and Dr.Tessamma Thomas

C_669: Risk Prediction of Disease Complications in Type 2 Diabetes Patients Using Soft Computing Techniques

Aruna Pavate and Nazneen Ansari

C_684: Comparative Analysis on Surface Coil for 1.5T MRI Scanner

Abhay Morey, Sheetal Bhujade, Tapas Bhuiya, Samruddha Thakur and Twisha Pandey

SIP III: Speech and Image Processing

C_226: A Comparative Performance Analysis of Self Organizing Maps on Weight Initializations using different Strategies

H Haripriya, R Devisree, Dinesh Pooja and Nedungadi Prema

C_236: Shot Boundary Detection (SBD) using Structural SIMilarity (SSIM) Index

Srilakshmi Bandlamudi and Sandeep R

C_243: A Reversible Watermarking Technique Using Image Content Assessment and Dynamic Histogram Shifting

Neethu Thomas and Shiney Thomas

C_310: Copyright Protection for E-Learning Videos Using Digital Watermarking

P M Neena, Narayanan S Athi and Bijlani Kamal

C_375: Design of Speech Based Ground Control Station for Controlling the Micro Air Vehicles

Mallesh Babu S, Mr.Lokesha H, Mrs.Veena S and Mr.Jayantkumar.A Rathod

C_383: Salient Region Detection Based On Spatial Weight Map

Shelmy Mathai and Paul P.Mathai

POSTER PRESENTATION

Fifth International Workshop on Advances in Computing and Communications (IWACC-2015)

- **Layered System Architecture for STM32F4 based MAV Autopilot**
Pankaj Akula, Ajith Kumar P. Shetty, C.M. Ananda
- **Load Balancing In Cloud: Workload Migration among Virtual Machines**
Arya M B, Ajay Basil Varghese
- **High Performance Architecture Implementation of AES using FPGA**
Poonam Kadam , Nilima D. Parmar
- **An Adaptive Maximum Likelihood Estimation Method for Denoising Multi-Coil Magnetic Resonance Images**
Soumya V, Abraham Varghese
- **A Mathematical Model for Securing Cloud Computing**
Mutum Zico Meetei
- **Haze Detection and Removal by Multi-Scale Fusion**
Bhavya Bhanu MP , Dr. Arun Kumar MN
- **Comparative Analysis of Original Canny Detector and the Distributed Canny Edge Detector**
Pinky Pappachan , Maleeha Abdul Azeez
- **WISHBONE Compatible Memory Slave**
Rini Sebastian, Anoop Thomas
- **Design of APB to WB and AHB to WB Bridge**
Silpa RoseMary
- **Wishbone based I/O System**

Gayathri M, Anoop Thomas

- **Error Analysis of Linear Fractional Order Systems Using Step Response**
Ambily Paul, Rithu James, Harsha Appukutan
- **Study for Replacing PCIE Interface of the NVM Controller and Host**
Teenu Tom, Jobin Antony
- **Comparative Study on the PAPR Reduction Schemes in OFDM Systems with Reduced Complexity**
Surumy Marakkar K, Neethu R Gopan, Neethu Varghese, Dona Manjaly, Nitin Chacko
- **Secured Data Transfer in UART module using Two Level Verification**
Neenu Shaji, Bonifus P.L
- **Implementation of Floating Point ALU for MP3 Applications**
Shruthi Menon. K, Jaison Jacob
- **Delta-Sigma Modulator for Low Power Low Voltage Biomedical Applications**
Arun Krishnan, Jobin K Antony
- **Dependence based Microarchitecture for Out-Of-Order Superscalar I-Class Processor**
Greeshma B Thayil, Maleeha Abdul Azeez
- **Architectural Solution for Bigdata Security Monitoring**
Manju V. J, Chinchu Krishna S
- **Reducing Memory Latency in NoC Based Multicore**
Minu Cherian, Binu A
- **A Novel Low Power and High Speed ADC using Reconfigurable Switching Encoder**
Sherin Juvana K.P, Rony Antony P

- **High Performance Adders and Multipliers for Floating Point Operations**
Remya Jose, Dhanesh M. S
- **Duplicate Record Detection in XML Using Machine learning Techniques**
Anagha Pradeep, Teena George
- **Fingerprint Minutiae Extraction and Matching**
Aswathy.P.S, Tressa Michael
- **Resource Aware Scheduler for Heterogeneous Workload in Hadoop Cluster**
Athira V Panicker, Jisha G
- **Low Power and High Speed 5:2 Compressor Architectures**
Jini Thomas, Bonifus P L
- **Architecture for Matching of Data Encoded With Hard Systematic Error-Correcting Codes**
Karuna Jacob, Maleeha Abdul Azeez
- **Impact of Criticality Based Packet Prioritization in On-Chip Networks**
Lidiya Ross George M, Febin P Jacob
- **The Designing of an Efficient Image Encryption and Compression System and its Performance Analysis**
Neethu Varghese, Swapna Davies, Surumy Marakkar. K, Dona Manjaly, Nitin Chacko
- **Error Management and Flow Control in Rapidio**
Ruby Kuriakose, Rony Antony
- **Steganography in an Access Control System**
Tiny Tony, Jaison Varghese John
- **Design and Implementation of Low Power Sample and Hold, Comparator and DAC Circuits of SAR ADC**

Deepa Ravindran, Anoop Thomas

- **An Optimized High Resolution $\Sigma\Delta$ Modulator for Digital Hearing Aid Applications**
Rijo Sebastian, Babita Roslind Jose, Shahana T.K.
- **A Survey on Augmented Reality and Development using Open Source Frameworks**
Aravind P



In connection with the fifth International Conference on Advances in Computing and Communications - 2015 (ICACC2015) at the Rajagiri School of Engineering & Technology, Kochi on the 3rd, 4th and 5th of September 2015, **Three Minute Thesis competition** is organised.

- **What is a Three Minute Thesis?**

The Three Minute Thesis (3MT[®]) is a research communication competition developed by the University of Queensland. It challenges undergraduate/postgraduate students to present a compelling oration on their thesis/project and its significance in just three minutes in language appropriate to a non-specialist audience.

This is a Multi-disciplinary event.

Topic of interest is not limited to: (Civil / Electrical / Electronics / Communication / Mechanical / Chemical / Mining / Computing / Informatics / Automation and other allied disciplines)

- **Eligibility:**

1. Any full time student over the age of 18 could participate (Bachelors/Masters/PhD students).
2. Students who have finished their studies within the last 12 months.

- **Prizes:**

Cash awards for the top three (1st prize: Rs. 10000/-[#], 2nd prize: Rs. 6000/-*, and 3rd prize: Rs. 3000/-*) and Citations (several citations will be given at the discretion of the judges).

Final Five winners will have a "Lunch with CTO"[#]

[#]Sponsored by NeST Technologies, Cochin

*Competition Organiser has the right to change the prizes.

Panel Discussion
Shaping SmartCities: Opportunities & Challenges

Prime Minister's 100 SmartCities project is about to change the face of Indian cities. Kochi is expected to be one among them. In this context, Rajagiri School of Engineering & Technology is conducting a exciting **panel discussion** on "Shaping SmartCities: Opportunities & Challenges", which will bring Kochi City Mayor, Kochi Metro Rail delegate and eminent academics in the country around the table to discuss practical solutions - from governance, technological, academic and social point of view - to overcome the hurdles our cities face, especially with the help of technology and engineering sciences.

Date: Saturday, **5th September** 2015

Venue: Rajagiri School of Engineering & Technology, **Kakkanad**, Kochi

Time: **8.30 am** to 10.30 am - Panel Discussion

Free registration at: <http://acc-rajagiri.org/tutorial.asp>

our exceptionally eminent panel include:

- Hon Tony Chammany, Mayor, Kochi City
- Prof Gangan Pratap, Hon. Professor, Kerala Technological University, TVM (Former VC, CUSAT)
- Prof T G Sitharam, Chairman, Centre for Infrastructure, Sustainable Transportation and Urban Planning, Indian Institute of Science, Bangalore.
- Dr John Jose, Assistant Professor, IIT, Guwahati
- Mr Hari G P, Deputy General Manager, Kochi Metro Rail Ltd
- Dr Fr Jaison Paul Mulerikkal CMI, Assistant Professor, RSET, Kochi (Moderator)

Tutorial 1

Smart City Technologies of Cloud, Big Data, HPC and Internet of Things

- "The smart citizen and the fourth paradigm" by Prof. Gangan Pratap, Hon. Professor, Kerala Technological University, TVM (Former VC, CUSAT)



- "ICT assisted Urban Mobility Solutions" by Prof. T. G. Sitharam, Chairman, Centre for Infrastructure, Sustainable Transportation and Urban Planning, Indian Institute of Science, Bangalore.



- "Shaping smart cities in an era of information explosion" by Dr Fr Jaison Mulerikkal CMI, Department of Computer Science, Rajagiri School of Engineering & Technology



Tutorial 2

Date: 05.09.2015 (Saturday)

Chief-Resource Person:



Dr. John Jose, Assistant Professor, CSE Dept, IIT Guwahati.

Other Resource Persons: Febin P. Jacob, Elizabeth Isaac, Jayarajan J.N., Lidiya Ross George

About the topic:

A multi-core processor architecture consists of computation, memory, communication, and I/O design aspects. Diminishing feature sizes and shrinking wire widths expose the limitations of traditional bus based interconnection systems. Performance gap between computation and communication efficiency in modern System on Chip (SoC) is increasing. Network on Chip (NoC) is an emerging paradigm that can efficiently support integration of many cores on a chip by decoupling the on-chip computation and communication infrastructure, thereby overcoming the scalability issues faced by conventional buses. NoC architectures are proposed to replace design specific global on-chip wiring with general purpose on-chip interconnection network in multi-core systems.

The workshop introduces the basic and advanced concepts in NoC (FN session) followed by hands on sessions on the most popular NoC simulators **Booksim** and **Orion** (AN session). **Booksim** is a cycle accurate simulator written in simple C++ that models all architectural features of NoC in sufficient detail and accuracy. **Orion** is a power and area model estimation tool used for on chip networks.