

# Konnnect 2017<sub>b</sub>

**Annual Report**  
July 2016 - June 2017



**Department of Telecommunication Engineering**  
Accredited by NBA for FIVE years in the (Tier-I Format)

**BMS COLLEGE OF ENGINEERING**  
Affiliated to VTU, Accredited by NAAC  
Bengaluru-560019

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## Workshops Organized

Sl.No	Title of Workshop	Date(s)	Funding Agency	Participants
1	GUI building using Matlab	21 <sup>st</sup> October, 2016	Math Works. Maitreyee & BMSCE	6 faculty 60 Students
2	GUI building using App Designer	28 <sup>th</sup> October , 2016	Math Works. Maitreyee & BMSCE	3 faculty 45 Students
3	Basic Working of Arduino and it's peripherals	20 <sup>th</sup> January, 2017	Free	2 faculty 60 Students
4	Control Systems in Cube Servo using Matlab/Simulink	22 <sup>nd</sup> March, 2017	BMSCE, Edutech	10 faculty
5	Applications of Signal Processing using MATLAB	19 <sup>th</sup> -23 <sup>rd</sup> June, 2017	--	29 Students

# WORKSHOP ON GUI BUILDING USING MATLAB

21<sup>st</sup> October, 2016



## Participants Statistics

Faculty: 06

Students: 60

## Workshop Brief

The hands on session were conducted by Mr. Viju Ravichandran (Ph.D.), Education Technical Evangelist, Math Works, Bangalore and Ms. Maitreyee, Application Engineer, Math Works, Bangalore. This event was part of industry-institute interaction.

The workshop focused on implementing project works, theoretical concepts on a user interface known as GUI with the help of Matlab Tool. GUI helps in implementing the project with more user interaction. Some of the topics of workshop are as follows. Need for user interface, Layers of application, Guide tool, Call back to functions, Function handlers. Few hands on experiments were conducted on developing graphical user interface.

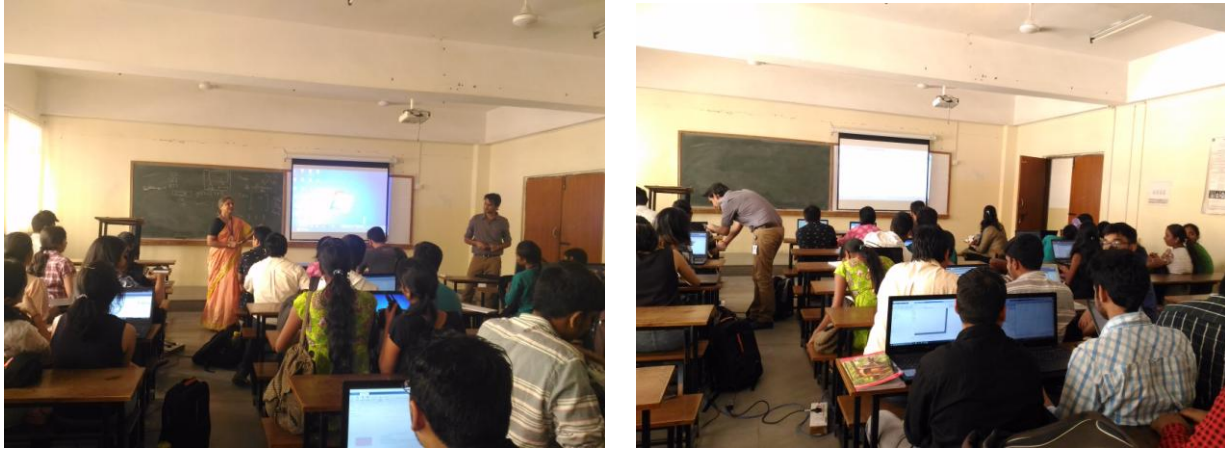
## Outcome of the Workshop

1. Exposure to GUI in project implementation with more user interactions.
2. Ability to design experiments using modern engineering tool: Matlab
3. Hands on experiments to learn GUI better

**Coordinator: Dr B Kanmani**

# WORKSHOP ON GUI BUILDING USING APP DESIGNER IN MATLAB

28<sup>th</sup> October, 2016



## Participants Statistics

Faculty: 03

Students: 45

## Workshop Brief

The hands on session were conducted by Mr. Viju Ravichandran (Ph.D.), Education Technical Evangelist, Math Works, Bangalore and Ms. Maitreyee, Application Engineer, Math Works, Bangalore. This event was part of industry-institute interaction.

The workshop focused on implementing project works, theoretical concepts on a user interface known as GUI with the help of App Designer in Matlab 2016. GUI helps in implementing the project with more user interaction. Some of the topics of workshop are as follows. Creating new apps, callbacks in app designing, design view and code view, update functions, component library, component browser, sharing the app, packaging the app, tool box, MCR-Matlab compiler runtime.

## Outcome of the Workshop

1. Exposure to GUI in project implementation with more user interactions.
2. Ability to design experiments using modern engineering tool: Matlab
3. Hands on experiments to learn GUI better
4. App designing

**Coordinator: Dr B Kanmani**

## BASIC WORKING OF ARDUINO AND IT'S PERIPHERALS

20<sup>th</sup> January, 2017



**Participants Statistics:** Faculty: 03, Students: 45

### Workshop Brief:

The speaker, Kritish Dhariwal started by explaining what Arduino were and what they were made up of. He also mentioned why they could be used as a substitute to various other devices. He went on to elaborate on the ways in which the Arduino board could be powered and programmed. He alerted the students about the necessary precautions they will have to take before powering an arduino board. After mentioning the wide variety of fields that use Arduino, he explained how flexible Arduino were and thus justifying their increasing popularity and usage. In the process, he made the students realize how the innovation in technology is benefitting human kind in more ways than one.

After giving a brief introduction to sensors, he explained the various types of sensors that existed in the market and their functioning. The students were divided into groups of 10 people and each group was given a sensor. The sensors included motion sensor, sound sensor, light sensor etc. They were asked to come up with applications using the sensors that were given. This exercise helped the students think out of the box and let their imagination flow. The different groups came up with innovative ideas using the concept behind those sensors. The working and programming of the sensors was then explained by Kritish to each group. He also guided the students on how they could implement their ideas and convert them into projects.

Overall, it was a highly educative session. It forced the students to think differently and made them realize there was still so much scope for innovation and improvement.

**Coordinator: Dr Rajeshwari Hegde**

# CONTROL SYSTEMS IN QUBE SERVO WITH MATALB/SIMULINK

22<sup>nd</sup> March, 2017

The poster is for a one-day Faculty Development Program (FDP) organized by BMS College of Engineering, Bengaluru, Department of Telecommunication Engg., in collaboration with Edutech. The program is titled 'Control Systems in Qube Servo with Matlab/Simulink' and is scheduled for 22-March-2017, from 9:00AM to 5:00PM, at the Computer lab, Dept. of Telecommunication Engg. The program is divided into several sections: 'Topic Covered' (Introduction, Lab Exercises: Lab 1: Hardware intergration, Lab 2: Filtering), 'Coffee Break', 'Rapid Controls Prototyping' (Lab Exercises: Lab 1: Sampling rate, Lab 2: Data logging), 'Modeling' (Lab Exercises: Lab 1: Model Matching, Lab 2: First principles modeling), 'Lunch Break', 'Stability Analysis' (Lab Exercises: Lab 1: DC motor BIBO stability from step, Lab 2: DC motor BIBO stability from impulse), 'Tea Break', and 'PID Control' (Lab Exercises: Lab 1: PID Tuning, PID Control Designing; Lab Exercises: Lab 2: Simulate PV Control, Lab 3: Implement PV Control). The program concludes with 'Advanced Control' and 'Session End'. The coordinator is Manjunath P.S. and the HOD, TCE is Dr. Rajeshwari M. Hegde.



## Participants Statistics:

Faculty: 12

## Workshop Brief:

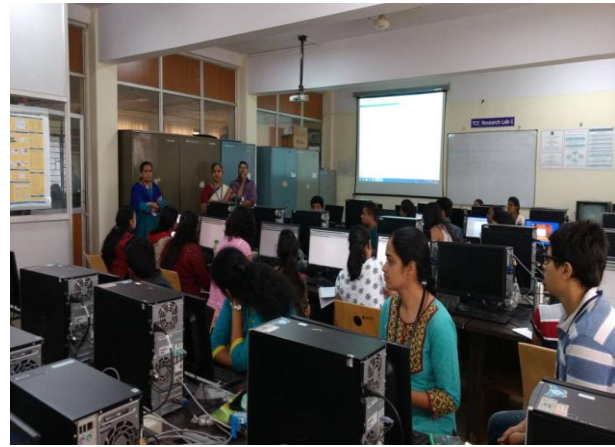
The sessions were handled by Mr. JayaMurugan from Edutech, Chennai. Theory and lab sessions on using Qube Servo with Matlab/Simulink were attended by faculty from different departments of BMSCE. FDP covered following topics Hardware-in loop, Position control, Integration, Filtering, Modeling First Order System and comparison with real time system , Stability Analysis, PD control

**Coordinators:** Manjunath P S , T Anusha Lalitha



# ONE WEEK WORKSHOP ON APPLICATIONS OF SIGNAL PROCESSING USING MATLAB

19<sup>th</sup> to 23<sup>rd</sup> June, 2017



**Participants Statistics:** Students: 29

## **Workshop Brief:**

The workshop was planned during the semester break for second and third year students with an intention for MATLAB code to be applied for signal processing and also biomedical applications and accomplish deep learning, communication skills and team work. The workshop introduced the participants to the tools and enabled them to continue use this tool further during their engineering program. The participants were also introduced to the basics of GUI.

Sequence of activities conducted during workshop

Day -I 19/6/2017	Introduction to MATLAB Recording voice and finding frequency range Basics of DTMF
Day-II 20/6/2017	Basics of Spectrogram Important functions in Image processing
Day-III 21/6/2017	Applications of DSP in Biological Signal Analysis Sampling of signals
Day-IV 22/6/2017	Project Work
Day-V 23/06/2017	DSP Processor

Hands on experience on MATLAB with respect to applications of signal processing

**Coordinator:** Prasanna Kumar M K



## Industrial Visits Organized

SNo	Date	Industry
1	17 <sup>th</sup> January 2017	Zscaler Technologies
2	17 <sup>th</sup> January 2017	Stellapps TEchnologies
3		
4		

## Industrial Visit to Zscaler and Stellapps Technologies 17<sup>th</sup> January 2017



The visit began at 8:45am on the 17th of January. The students, with zest and curiosity, first visited Stellapps Technologies. Stellapps Technologies specialize in revolutionizing the agro based industry. They provide IoT based solutions and data collection to agro based industries. Various solutions provided are Smart SDP, cold chain adherence protocol, Smart farm, ConTrak among others. These products all focus on reducing human interference during milk procurement, thereby assuring the consumer about the quality of the product. Various levels of quality testing and assurance, timely reports, real time monitoring and analysis using Big data analytics professionals to obtain the feedback regarding the optimization. This was backed up by real time demo of the smart procurement and quality assessment and rating system to give the insight into practical aspects of technology.

At 2:45pm, the students stood near another successful start up company, Zscaler, an upcoming company specializing in network security. Mr. Gautam Vishal, who gave a short yet detail, oriented presentation pertaining to their domain and style of operation. Industrial visit within the spread out of the limited time indeed gave a lot of pointers on how to increase the chances of surviving and being better engineers to solve the grand challenges of the world. This day concluded with the students, being more informed about the reality. May many more such occasions arise, paving way to learning with fun.

Report by Sumedha R Kulkarni, 1BM13TE055

**Coordinators:** Mr P S Manjunath, Dr Rajeshwari Hegde

## Extension Lectures Organized

SNo	Name of the Invited Scholar with full Address	Title of the Lecture Delivered	Area of Specialization	Date of Lecture
1.	Gopalan Oppiliappan, Intel	SWAYAM orientation programme and time & stress Management	Software	07.09.2016
2.	Dr Bhavani Ranganathan	Conflicts & Resolutions	Soft skills	06.02.2017
3.	Arjun Kondur, Juniper Networks, USA	Carrier Opportunitites for Telecom Engineers	Networking	09.02.2017
4.	Parthasarathi Patel	Neuroplasticity and the art of rewiring the brains	Software	11.02.2017
5.	Arjun Kondur, Juniper Networks, USA	Carrier Opportunities for Telecom Engineers	Networking	09.02.2017
6.	Dr R Kumaraswamy, SIT, Tumkur	Signal Processing: An Application Perspective	Signal Processing	23.02.2017
7.	Mr Sravana Kumar, senior subject matter expert , GATEFORUM.	Gateway to GATE	GATE coaching	17.03.2017
8.	Mr Sandeep, Founder, etiq Technologies	Openlab-embedded Platform	Embedded Systems	03.04.2017
9.	Poornima Hegde, Trainer , Heartfulness Institute	Meditation for Human Evolution	Value Education	19.04.2017
10	Lakshmi Narasimha I N (Technical Lead, SchemaZen Technologies	Hardware board design & Product design	VLSI	29.05.2017

## SWAYAM Orientation Programme and Time & Stress Management

B Gopalan, Senior Software Engineering Manager

Intel, India



### Statics of Participants:

Students: 90

Faculty: 4

The proposal to start the SWAYAM (Strengthen the Will and Ability of the Youth to Aim at Mastering themselves) forum was submitted in the month of August 2015 and the same was approved by the Principal in October 2015 and the forum was inaugurated by Dr Mohandas Hegde, Director, CREST, Bangalore on 31st October 2015. The forum was officially added as one of the student club of Illuminate in the month of August 2016 with the effort of student coordinators, Ajith G (5th Sem TCE) and Diwakar (3rd Sem Mechanical). With the permission from our Principal, the orientation programme was fixed on 7th September 2016 at 3pm. The online registration for the forum was started on 5th September and 101 students registered for the forum.

As the name itself says, the aim of the forum is to help the students for their overall development. Mr Gopalan, Senior Software Engineering Manager, Intel was invited to talk on the day of orientation.

The orientation programme started at 3pm in the BSN hall with a brief introduction of the SWAYAM by Harshini (5th sem TCE). She also briefed on the workshop organized at CREST on January 2016 at CREST.

Sangeetha of EE dept rendered a invocation song and the principal inaugurated the programme by lighting the lamp. He also distributed the certificate of participation for the top two essays of the institution who participated in the All India Essay Writing Event 2015 organized by United Nations and Shri Ramachandra Mission.

The programme continued with a motivational talk by our beloved principal Dr K Mallikharjuna Babu. Later the stage was handed over to Mr Gopalan. He touched upon three topics, Corporate Life, Stress management and time management which are very much required for the students.

The following points were covered in his talk

- Comparison of campus life and corporate life- The students need not write the exams when they enter into corporate life but there will be performance reviews on a regular basis.
- They have to work under the entity called 'Boss'
- Results are more valued than anything else
- Beware of politics
- Keep asking 'What next'? There is no end for the work done in the corporate.
- Explore, explore and explore to find your limits
- Stress Management
- Under this session, following points were discussed. What is stress?

Factors triggering stress

- Fear
- Time
- Peers/Others
- Self doubts

External Factors

- The speaker made the students to come out with the definition of stress and the factors triggering the stress and later he expressed his view on the same.
- The last topic for the day was on time management and following points were discussed.
- Single Task Focus- which will help them to complete a task within prescribed time

Persevere with the first 5 min

Life = Time

Time used effectively = Life lived effectively

What uses your time and energy each week?

Time Management = Energy Levels management.

**Coordinator: Dr Rajeshwari Hegde**



## Emerging Trends in VLSI

by,

Mr. Mukesh Bhartiya, INTEL, Mr. Manoj Sundareswaran, BlackPepper Technologies Pvt.Ltd. Mr. Vivek Bhat, appZui Technologies Private Limited



### Statics of Participants:

Students: 52

Faculty: 3

### Program Brief:

An expert lecture on 'Emerging Trends in VLSI' was conducted by three distinguished alumni of Telecommunication department i.e. Mr. Mukesh Bhartiya, Engineering Manager – INTEL, Mr. Manoj Sundareswaran, Executive Vice-president – BlackPepper Technologies Pvt.Ltd. and Mr. Vivek Bhat, Founder Director – appZui Technologies Private Limited on 25th November 2016.

**Coordinators:** Dr B Kanmani and C Gururaj

## Conflicts & Resolutions

Dr Bhavani Ranganathan, English Language Consultant



### Statics of Participants:

Faculty and staff:15

### Program Brief:

The programme started with a brief introduction of Dr Bhavani Ranganathan by the student coordinator, Mr Ajith of 6th semester TE.

Dr Bhavani gave an overview of the conflicts that arise in day to day life, why they occur and how to resolve the conflicts with examples from real life situations. She also spoke about She concluded the session by posing the following questions to the audience

- Why should you resolve a conflict?
- When should you resolve a conflict?
- How should you resolve a conflict?
- What does one refer to by the word 'self' ?
- What qualities would you associate with the selfphysical, intellectual .....?
- Did you acquire them or do you think you inherited them (some/all) ?
- Can you categorize them as external and internal ?

**Coordinator: Dr Rajeshwari Hegde**

## Neuroplasticity and the art of rewiring the brains

Mr Parthasarathi Patel- Technical Lead, Individual Contributor, Oracle India



**Statics of Participants:** Students:82 Faculty:02

The human brain has 100 billion neurons, each neuron connected to 10,000 other neurons. Sitting on our shoulder is the most complicated object in the known universe. Development of the human brain is influenced by many factors including relationships, experience and environment.

On 11 Feb 2017, the SWAYAM forum of our college organized a seminar on Neuroplasticity and the art of brain rewiring by Mr. Parthasarthy Patel, Tech lead, Oracle. The event was held in BSN hall and was attended by teachers and students of our college. He talked on how learning in our brain is subjected to situations, environment and above all willingness. What actually changes in the brain are the strengths of connections of neurons that are engaged together moment by moment in time and as it was said throughout the seminar that Neurons That Fire Together, Wire Together. This was followed by a session on professional resume building and presentation skills. Mr. Parthasarthy touched upon the important aspects and skill sets on which the industry and recruiters focus. The sessions were very informative and interactive. Students put across their doubts and issues which were duly addressed.

Report by Sumedha Kulkarni (1BM14TE047)

**Coordinator:** Dr Rajeshwari Hegde

# Signal Processing: An Application Perspective

by Dr R Kumaraswamy, SIT, Tumkur



**Statics of Participants:** Students:78 Faculty:03

The talk was mainly focused on applications of signal processing in radar, sonar, biomedical field, speech processing, speaker identification etc. Different representations of the signals were discussed with illustrations. Problem identification and possible approaches for solutions in the field of multi speaker environment was explained. Some of the possible project ideas in the field of signal processing were given. At the end few videos on speech controlled robot was shown to motivate the students to carry out projects in this direction.

**Outcome:** Introduction to applications of signal processing, project ideas.

**Coordinator:** Dr Prasanna Kumar M K

## Gateway to GATE

**Mr Sravana Kumar, Senior subject matter expert , GATEFORUM**



### **Statics of Participants:**

**Students:62**

Faculty from GATEFORUM Mr Sravan Kumar gave a brief overview of the GATE examination pattern. The talk included details about the question paper pattern, cut-off marks in various disciplines, important topics to be studied and above all strategies to score high in the examination. GATEFORUM also shared its stupendous success in training candidates for the GATE so far. GATEFORUM also mentioned that all the faculty at the institute is from premier institutes in India like the IITs and IISC. A sample test was conducted after the presentation. They also offered a huge fee waiver for the toppers of the class. GATEFORUM also trains students for other PSU exams along with GATE.

GSAT exam was conducted for the students of our college on 8th April 2017 from 12pm-2.00pm. 73 students wrote the exam.

**Coordinators: Mr Balachandra Kumarawamy, Dr Rajeshwari Hegde**



## Openlab-embedded Platform By Mr Sandeep, Founder, etiq Technologies



### Statics of Participants: Students:60 Faculty:03

Simple projects can be performed which will help in learning the basic hardware components and also to observe real time response to the working codes.

The embedded board specifications include 'pic' microcontroller, graphic LCD, relay and motor driver, seven segment display, matrix keyboard, communication ports, real time clock, USB, EEPROM, IO board and a mini bread board. This platform benefits beginners the most as all hardware sections are separately categorized with an open structure for convenience of use and to deliver a clear knowledge on hardware sections. Its open structure reduces the project design complexity for Engineers.

There are a number of free on-board connections on OpenLab. There are temporary connections between the controller and various ports. It is quite easy to switch between the running mode and programming mode with the help of toggle switches mounted on-board. the OpenLab is highly extendable ,that is the user can interface extra elements either using add on boards or with the help of bread board. Hence it is user friendly.

The user can connect various add-on modules and also Arduino shield interface boards while building larger circuits. This platform also has an SD card module to add additional memory in high end projects in addition to the microcontroller internal memory.

Report by Madhura A(1BM15TE016)

**Coordinator:Dr Rajeshwari Hegde**



## **Meditation for Human Evolution**

### **Poornima Hegde, Trainer, Heartfulness Institute**



#### **Statics of Participants:**

#### **Faculty and staff:15**

Dept. of TE organized an extension lecture on “Meditation for Human Evolution” under SWAYAM student forum, by Mrs Poornima Hegde, Meditation Trainer, Heartfulness Institute. She also conducted a meditation session for 30 minutes. The speaker shared the benefits Heartfulness of meditation and her experience. Some of the benefits are

- Improved quality of life
- Stress relief
- Better quality of sleep
- Stimulation of the immune system
- Greater concentration

**Coordinator:Dr Rajeshwari Hegde**

## Hardware board design & Product design By Lakshmi Narasimha I N (Technical Lead, SchemaZen Technologies)



### Statics of Participants: Faculty and staff:15

On 26th May 2017, Department of Telecommunication Engineering along with SchemaZen Technologies Pvt. Ltd., organized an extension lecture for the faculties of the Electrical cluster departments. Mr Narasimha from SchemaZen Technologies was the invited speaker for the event. He mentioned that SchemaZen Technologies is a Unique, Premier Training, Research & Development Company dedicated for providing world class competency skill-sets in the field of “Electronics System, Hardware Board Design & Product Design” covering the entire End to End Electronic Product Design and Production Life Cycle. And also mentioned that the Company is first of its kind in India, to build people/students to get into core electronics companies and build greater products.

For the enquire of the faculty about the training for students, he mentioned that SchemaZen Technologies is dedicated in providing Training and the necessary skills in the field of Electronics Product Design Services, Hardware Board /PCB/ Manufacturing for fresh Candidates from BE, M. Tech which is useful for the Electronics Design, Development and Manufacturing Domains.

He concluded that they are interested to sign an MoU with Department of TCE, BMSCE and informed that SchemaZen along with Training,

**Coordinator: Mr P S Manjunath**

## Alumni Interactions

Sl.	Date	Topic/Event	Name & Address of the speaker
1	11th January 2017	Interaction with faculty	Shashidhar P, MS student of Colarado University
2	20th January 2017	Workshop on Basic Working of Arduino and it's peripherals	Mr Kritish Dhariwal, (1BM10TE022), Founder, The Engineer Store
3	1st February 2017	Interaction with faculty	Mr Arjun Kondur, Software Engineer 2, Juniper Networks, USA
4	4th February 2017	Interaction with faculty	Mrs Shruthi D, Alumni, TE, City Operations Head at Sujaya Foundation, UAE
5	9th February 2017	Carrier Opportunities for Telecom Engineers	Mr Arjun Kondur, Software Engineer 2, Juniper Networks, USA
6	21st March 2017	Interaction with faculty	Mr Krishnanand K, Research Scholar, Brown University , USA
7	4th April 2017	Interaction with faculty	Mr Manohar, Alumni, employee, IBM
8	21st June 2017	Interaction with students	Mr Yuvaraj Ganesh and Chandan Raju ,Alumni , currently persuing their MS in Stevan's Institute of Technology and San Deigo State University
9	24th June 2017	Interaction with faculty	Mr K Siddappaji, Alumi, working as a software developer in TCS
10			
11			
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17			
18			

**11th January 2017:**Mr Shashidhar P, Alumni, dept of TCE , MS student of Colarado University USA interacted with 6th semester students



**20th January, 2017:**Mr Kritish Dhariwal, Alumni (1BM10TE022), TE, Founder, The Engineer Store conducted half-day workshop on “Basic Working of Arduino and it’s peripherals”, for the students of electrical cluster.



**1st February 2017:** Mr Arjun Kondur, Software Engineer 2, Juniper Networks, USA, Alumni, TE department visited the dept.



**4th February 2017:** Mrs Shruthi D, Alumni, TE, City Operations Head at Sujaya Foundation, UAE which provides quality education for underprivileged children visited the dept. and interacted with the faculty





**9th February 2017:** Mr Arjun Kondur, Software Engineer 2, Juniper Networks, USA, Alumni, delivered a talk for 6th sem students on “Carrier Opportunities for Telecommunication Engineers

**21<sup>st</sup> March 2017:** Mr Krishnanand K, Research Scholar, Brown University , USA , Alumni dept. of TE interacted with the faculty and explored the possibility of jointly executing the projects.



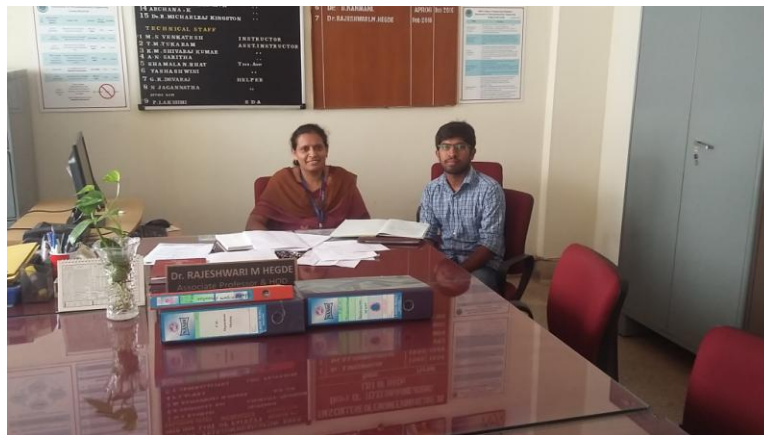
**4th April 2017:** Mr Manohar, Alumni, Dept. of TE, employee, IBM visited the dept.



**21st June 2017:** Mr Yuvaraj Ganesh and Chandan Raju (Alumni Telecommunication Engg), currently pursuing their MS in Stevan's Institute of Technology and San Deigo State University interacted with the students.



**24th June 2017:** Mr K Siddappaji (Alumi Telecommunication Engg), working as a software developer in TCS visited the department



## Faculty as Resource Persons

Sl.	Name of Faculty	Nature of Program	Title of lecture delivered	Date	Venue
1	B Kanmani	TEQIP-II sponsored Pedagogical Skill Development	Graduate Attributes	July 4, 2016	RVCE, Bangalore
2	B Kanmani	TEQIP-II sponsored workshop on Pedagogy Training	One session during the workshop, 'Program Outcomes and Mapping with COs'	July 25-30, 2016	RVCE
3	B Kanmani	TEQIP-II workshop	Fourier Transforms through Matlab	July 25, 2016	BMSCE
4	B Kanmani	TEQIP-II sponsored Pedagogical Skill Development	Program Outcomes & Mapping with COs	July 26, 2016	RVCE, Bangalore

5.	B Kanmani	Accreditation Process for Technical Institutions'	Mapping aspects in SAR: CO-PO, CO-PSO and PEOs-Mission	August 27, 2016	JSS
6.	B Kanmani	Workshop	Forming CO's and its mapping to PO's and Course Attainment Calculations	November 5, 2016	PES College of Engineering, Mandya
7.	C.Gururaj	NBA SAR Verification	Deputed to BMSIT for verification of Self-Assessment Report (SAR) and preparedness for NBA visit	October 6 <sup>th</sup> 2016	Department of Telecommunication, BMSIT
8.	B Kanmani	IUCEE webinar	Signals and Systems concepts using Multisim	October 19, 2016	
9.	B Kanmani		Forming COs and its Mapping to POs and course attainment calculations	October 5, 2016	PESCE, Mandya.

10.	B Kanmani		Course Outcomes	November 29, 2016	BMSIT, Bangalore
11.	Dr Rajeshwari Hegde	External examiner	Viva Voce for Research scholars	18th December 2016	CREST, Research center recognized by Mysore University
12.	B Kanmani	Workshop on, 'NBA-Know how, preparation and next steps'	Course-Outcomes, Continuous Improvement	January 25, 2017	JNN College of Engineering, Shivamaogga
13.	C.Gururaj	Mock NBA Audit	Invited to GSSS Institute of Engineering For Women, Mysuru	30th Jan 2017	Department of Telecommunication, GSSSIEW, Mysuru
14.	Dr Rajeshwari Hegde	Workshop	Challenges in Introducing Value based Education in colleges	February 12th 2017	CREST, Research center recognized by Mysore University

15.	C.Gururaj	Judge	State Level Lecture Competition	25 <sup>th</sup> Feb 2017	Jain University, Bengaluru
16.	B Kanmani	Webinar	Continuous Quality Improvement through OBE	February 28, 2017	IUCEE webinar
17.	B Kanmani	Workshop	Application of signal processing using MATLAB	19 <sup>th</sup> -23 <sup>rd</sup> June2017	BMSCE
18.	Rajeshwari Hegde	Workshop	Application of signal processing using MATLAB	19 <sup>th</sup> -23 <sup>rd</sup> June2017	BMSCE
19.	C Gururaj	Workshop	Application of signal processing using MATLAB	19 <sup>th</sup> -23 <sup>rd</sup> June2017	BMSCE
20.	Prasanna Kumar MK	Workshop	Application of signal processing using MATLAB	19 <sup>th</sup> -23 <sup>rd</sup> June2017	BMSCE



**Dr B Kanmani**, was invited to handle one session on Graduate Attributes', during the 7th Batch of the one week training on 'Pedagogical Skill Development', conducted as part of the TEQIP-II initiative by RV College of Engineering, Bangalore

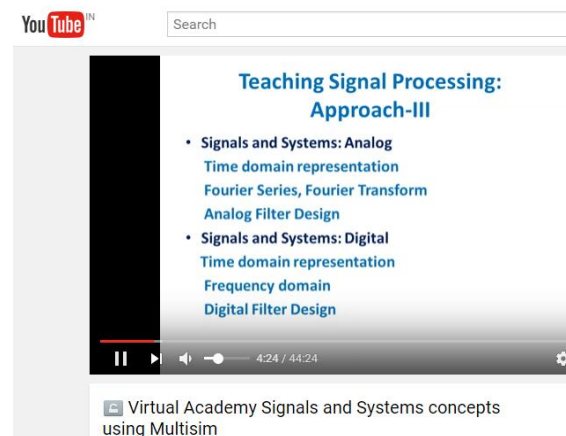
**Mr Prasanna Kumar M K** , handle one session on Graduate Attributes', during the 7th Batch of the one week training on 'Pedagogical Skill Development', conducted as part of the TEQIP-II initiative by RV College of Engineering, Bangalore

**Dr B Kanmani**, was invited to handle a session on 'Program Outcomes & Mapping with COs', during the 8th Batch of the one week training on 'Pedagogical Skill Development', conducted as part of the TEQIP-II initiative by RV College of Engineering, Bangalore

**Dr B Kanmani**, delivered talk on "Forming COs and its Mapping to POs and course attainment calculations" at Department of Electronics and communication engineering, PESCE, Mandya.

**C.Gururaj** was deputed to BMSIT for verification of Self-Assessment Report (SAR) and preparedness for NBA visit of Department of Telecommunication, BMSIT

**Dr B Kanmani**, delivered the IUCEE webinar on 'Signals and Systems concepts using Multisim'. The webinar can be accessed at:



<https://www.youtube.com/watch?v=a7Cfkso8wZA>

**Dr B Kanmani** delivered a talk on Course Outcomes, at BMSIT, Bangalore



**Dr Rajeshwari Hegde**, Dept of TE, **Dr Veena Hegde**, Dept. of E & I and **Dr B S Nagabhushana**, Dept. of ECE were invited as examiners to conduct viva for research scholars at CREST, research Centre recognized by Mysore university.



**B Kanmani**, **Rajeshwari Hegde**, **C Gururaj** and **Prasanna Kumar M K** were the resource persons for the one week workshop on “Applications of Signal Processing using MATLAB” organized by Dept. of Telecommunication Engineering, BMSCE.



## Faculty Training Program Participated

Sl. No	Name of Faculty	Program attended	Date	Venue
1	B Kanmani	TEQIP-II sponsored Conclave of Academic Administrators of Autonomous Engineering Colleges affiliated to VTU	27 <sup>th</sup> January, 2017	NIE Mysore
2	N Srinivasa Rao	ISTE STTP on CMOS, Mixed Signal and Radio Frequency VLSI Design	26-12-16 to 29-01-17	Online Assignment from IIT, Kharagpur
			30-01-17 to 04-02-17	IIT Kharagpur, Remote Center: BMSCE, Bangalore
3	Dr Rajeshwari Hegde	one week TEQIP-II Sponsored workshop on 'EMI and EMC in Electronic Systems'	July 25 - 29, 2016	BMSCE
		NABL Accreditation	6th - 7th January, 2017	BMSCE
		Ancient Treasure of Knowledge	17 <sup>th</sup> and 18 <sup>th</sup> June 2017	CREST, Bangalore

4	M Vasantha Lakshmi	Short Course on Co-operative 4G/5G MIMO wireless technology and research opportunities at IIT kanpur	28th-30th December,2 016	MSRIT,Bang alore
		Use of E-Resources for Teaching and Research	4 <sup>th</sup> – 5 <sup>th</sup> May , 2017	BMSCE
5	K P Pushpavathi	one week TEQIP-II Sponsored workshop on 'Essentials of Pedagogy',	July 25 - 29, 2016	BMSCE
		Short Course on Co-operative 4G/5G MIMO wireless technology and research opportunities at IIT kanpur	28th-30th December, 2016	MSRIT, Bangalore
		Use of E-Resources for Teaching and Research	4 <sup>th</sup> – 5 <sup>th</sup> May , 2017	BMSCE
6	T Anushalalitha	one week TEQIP-II Sponsored workshop on 'Essentials of Pedagogy',	July 25 - 29, 2016	BMSCE
		Use of E-Resources for Teaching and Research	4 <sup>th</sup> – 5 <sup>th</sup> May , 2017	BMSCE
7	Manjunath P S	one week TEQIP-II Sponsored workshop on 'Essentials of Pedagogy',	July 25 - 29, 2016	BMSCE

8	C. Gururaj	ISTE STTP on CMOS, Mixed Signal and Radio Frequency VLSI Design	26-12-16 to 29-01-17	Online Assignment from IIT, Kharagpur
			30-01-17 to 04-02-17	IIT Kharagpur, Remote Center: BMSCE, Bangalore
		NABL Accreditation	6th - 7th January, 2017	BMSCE
9	Balachandra K	QIP Short Term Course on Numerical Methods for Engineers & Scientists	19th-23rd Dec, 2016	IISc, Bengaluru
10	Ambika K	one week TEQIP-II Sponsored workshop on 'EMI and EMC in Electronic Systems'	July 25 - 29, 2016	BMSCE
		Use of E-Resources for Teaching and Research	4 <sup>th</sup> - 5 <sup>th</sup> May, 2017	BMSCE
11	Shreenivas B	TEQIP-II Sponsored workshop on 'Internet of Things'	July 25 - 29, 2016	MSRIT
		NABL Accreditation	6th - 7th January, 2017	BMSCE
12	Prasanna Kumar M.K	NABL Accreditation	6th - 7th January, 2017	BMSCE

## TEQIP II sponsored workshop on EMI-EMC in Electronic Systems

The workshop on EMI-EMC in Electronic Circuits was organized by the department of Electronics and Communication Engineering from 25th-29th July 2016. Dr Rajeshwari Hegde, Ambika K and Archana K from Telecommunication Engineering department attended the workshop. The EMI and EMC problem in Analog Electronic circuits with hands-on session was covered by Dr Gunasekaran, Professor (Retd), IISC on 25th July. EMI issues in power electronic circuit with hands-on was covered on 26th July. EMI in digital circuits was covered on 27th July. Prof Gunasekaran explained the EMI issues in a variety of digital circuits in detail. EMI is less in PIC microcontroller compared to 8051 because of inbuilt peripherals like ADC, crystal oscillator etc. On 28th July, Dr Joshi, Scientist, STQC , Department of Electronics & It, Government of India gave introduction to EMI-EMC standards. He also covered history of EMI, Electromagnetic phenomena, problems due to EMI, EMI fundamentals, EMC standards in detail.



An industrial visit to TÜV Rheinland (India) Pvt. Ltd, Electronic city, Bangalore was organized on 29th July 2016. 10 meter anechoic chamber for testing and certification activities of all industry segments such of medical, wireless, automotive, electric and electronic was explained in detail. The certificates were distributed after the visit.





## Access to e-resources for teaching and research

(i) A two day workshop on the train the trainer program was focused on access to the e-resources for teaching and research and also showed various features available to filter or to narrow down the materials for any particular topic.

(ii) The workshop gave insights of creating account and managing various resources available in e-resources like IEEE-IEL, ASME, ASCE, Knimbus, etc

(iii) Importance of IPR related to converting research into a patent was a keynote addressed by K.S.Sudheer, Associate Solicitor, Shankar and Shankar legal consultant

(iv) It was forum for the discussion of the effective management of available e-resource tools and techniques to ensure the more usage of the resources by researchers and students with the supervision of librarians.





## TEQIP-II sponsored Essentials of Pedagogy

Faculties of TCE-Pushpavathi.K.P, T.Anushalalitha, Manjunath.P.S, attended the five day programme on "Essentials of Pedagogy" organized by Department of Chemistry, BMSCE, from 25<sup>th</sup> to 30<sup>th</sup> July 2016. The training was imparted by Experts: Dr.Suresh,Dr.G.Janardhanan and Dr.Shanmughaneedi NITTR, Chennai. The event was sponsored by TEQIP-II.



### Outcomes of participation in the training:

- Developing Instructional outcomes ,lesson plan, course plan, planning
- Improvement in course delivery, Engaging students
- ICT
- Micro Teaching
- Evaluation of student Performance
- Open source Education tools

**Future Plan** The faculty participants in the above training program, plan to implement the following in near future-Show improvements in the TLP using the outcomes of the programme.

Participants: Pushpavathi.K.P, T.Anushalalitha, Manjunath.P.S

## Short course on “Co-operative 4G/5G MIMO Wireless Technology and Research Opportunities at IIT Kanpur”

Co-operative communication is an active area in research and a short course on “Co-operative 4G/5G MIMO Wireless Technology and Research Opportunities at IIT Kanpur” was organized by Prof. Aditya K. Jagannatham, EE Department, IIT Kanpur in association with E & C Dept., M.S. Ramaiah Institute of Technology, Bengaluru from 28<sup>th</sup> December to 30<sup>th</sup> December, 2016. The course was attended by Pushpavathi.K. P and Vasantha Lakshmi.M Assistant Professor, Department of Telecommunication Engineering, BMSCE.



INDIAN INSTITUTE OF TECHNOLOGY KANPUR



With the introduction to 5G, Prof. Aditya K. Jagannatham, EE Department, IIT Kanpur elaborated on the Co-operative 4G/5G MIMO Wireless Technology. His sessions included Amplify and Forward (AF), Decode and Forward (DF), and Selective DF protocols that have been proposed for cooperative wireless communication. Multiple-input multiple-output (MIMO) technology together with Space-Time Block Coding (STBC) that can be employed at the nodes to enhance the data rates was discussed. The course included comprehensive MATLAB demonstration on the above topics. The course provided us the necessary theory and tools that would help in the research in Cooperative Wireless systems.

This program was sponsored by TEQIP-II with financial assistance.

### Future plan through participation:

The course provided some ideas on the different protocols that can be taken up as projects for the final semesters. Topic being relevant to recent trends can be included in the syllabus for the final year students.

## Report on FDP titled " Numerical methods for engineers and Scientists"

A five day FDP was organized on " Numerical methods for Engineers and Scientists" from 19-12-2016 to 23-12-2016 in IISC campus. The lecture session was conducted in the Forenoon and Hands on training in MATLAB was carried out in the afternoon session. Prof. Sivarma Amikasaran from IISc is extremely knowledgeable in the field of Applied Mathematics and explained the concepts in a very elaborate manner within the short time available. Each day of the course was dedicated to a concept on Numerical Methods. The course started off discussing the effects of numerical rounding off errors in real life scenarios and how this error can be minimized. On the first day basics of Numerical Linear Algebra were discussed. For the post lunch sessions assignments related to the topics were given. The assignment had to be turned in within a day's time. Similarly the successive days focused on differentiation, integration, ordinary differential equations and finally partial differential equations. Each session was followed by a hands-on session and solving the assignments helped us realise and understand the real life applications of numerical methods. We would like to continue our learning in this field and would like to share our learning from this workshop with faculty and students. We would also like to incorporate these techniques in our research.

Venue: IISc, Centre for Continuing Education

Time:9:30 am to 5:00pm

Resource Person: Dr Sivarm Ambikasaran, Department of Computational and Data Sciences (CDS), IISc

Balachandra K

Dr Michael Raj Kingston

## Technical Staff Training Program Participated

Sl. No.	Name of Staff	Program attended	Venue	Date
1	Saritha A.N	Antenna Design and Testing	APEX Hi-Tech Institute, Bangalore	11 <sup>th</sup> - 15 <sup>th</sup> July, 2016
2	Yashawini R			
3	M.S.Venkatesh	Linear IC's and its Application in Communication System	APEX Hi-Tech Institute, Bangalore	18th - 22nd July, 2016
4	Tukaram.T.M			
5	Shivaraj Kumar K M	Embedded C Programming with C51 Microcontroller	APEX Hi-Tech Institute, Bangalore	16 <sup>th</sup> - 19 <sup>th</sup> August, 2016
6	Shamala N Bhat			

## Five Days Training On Antenna Design and Testing

Government Of India, Ministry of Skill Development & Entrepreneurship, Directorate General Of Training, APEX HI-TECH INSTITUTE, Bangalore had conducted a five days training program on Antenna Design and Testing during 11<sup>th</sup> july to 15<sup>th</sup> july 2016. Department of Telecommunication, Technical Staffs Saritha A.N and Yashaswini had attended the training.



### Outcome:

- Learnt the fundamental basics of antenna.
- Learnt to identify the different types of antennas.
- Understood the different characteristics of various antennas.
- Learnt how to test different types of antennas.



# Linear IC's and its Application in Communication System

From 18-07-2016 to 22-07-2016, in APEX Hi-Tech Institute, Bangalore.



## Outcome through participation:

- Learnt about IC Fabrication Process.
- Learnt about open and closed loop configuration and applications of operational amplifier.

## Four Days Training On Embedded C Programming with C51 Microcontroller

Government Of India, Ministry of Skill Development & Entrepreneurship, Directorate General Of Training, APEX HI-TECH INSTITUTE, Bangalore had conducted a four days training program on Embedded C Programming with C51 Microcontroller during 16<sup>th</sup> August to 19<sup>th</sup> August 2016. Department of Telecommunication, Technical Staffs Shivaraj Kumar K M and Shamala N Bhat had attended the training.



### Outcome:

- Learnt the Features of 8051.
- Learnt header files using embedded C programming.
- Interfacing of LCD,DC motor, Stepper motor, switches,buzzer.
- Serial communication Programming.



## Faculty Publications: Journal

Sl	Faculty	Journal	DOI/ISSN
1	N. Srinivasa Rao	International Journal of VLSI System Design and Communication Systems	ISSN 2322-0929
2	Dr. Rajeshwari Hegde	International Journal of Engineering and Technology	<b>DDOI:</b> <b>10.21817/ijet/2017/v9i3/1709030170</b>
3		International Journal of Scientific & Engineering Research	ISSN 2229-5518
4	T Anusha Lalitha	Journal of Telecommunication Study	Volume 3 Issue 1
5	Dr. C. Gururaj	International Journal of Scientific & Engineering Research	ISSN: 2229 – 5918
6		International Journal of Advanced Research in Computer and Communication Engineering (IJARCCE)	DOI: 10.17148/IJARCCE.2016.5846
7		<i>IOSR Journal of VLSI and Signal Processing (IOSR-JVSP)</i>	e-ISSN: 2319 – 4200
8	Shreenivas B	International Journal of Advanced Engineering, Management and Science (IJAEMS)	DOI: <a href="https://dx.doi.org/10.24001/ijaems.3.5.32">https://dx.doi.org/10.24001/ijaems.3.5.32</a> .
9	Dr. Prasanna Kumar MK	IET Signal Processing	DOI: 10.1049/iet-spr.2016.0450
10		International Journal of Speech Technology	DOI: 10.1007/s10772-016-9381-1
11		International Journal of Speech Technology	<a href="https://doi.org/10.1007/s10772-016-9392-y">DOI:10.1007/s10772-016-9392-y</a>
12	Dr. Michael Raj	An Improved Self Adaptive Min - Sum Decoding Algorithm for Flexible Low-Density Parity-Check Decoder	<a href="https://doi.org/10.1007/s40009-016-0519-0">https://doi.org/10.1007/s40009-016-0519-0</a>

## Paper Presentation in Conference

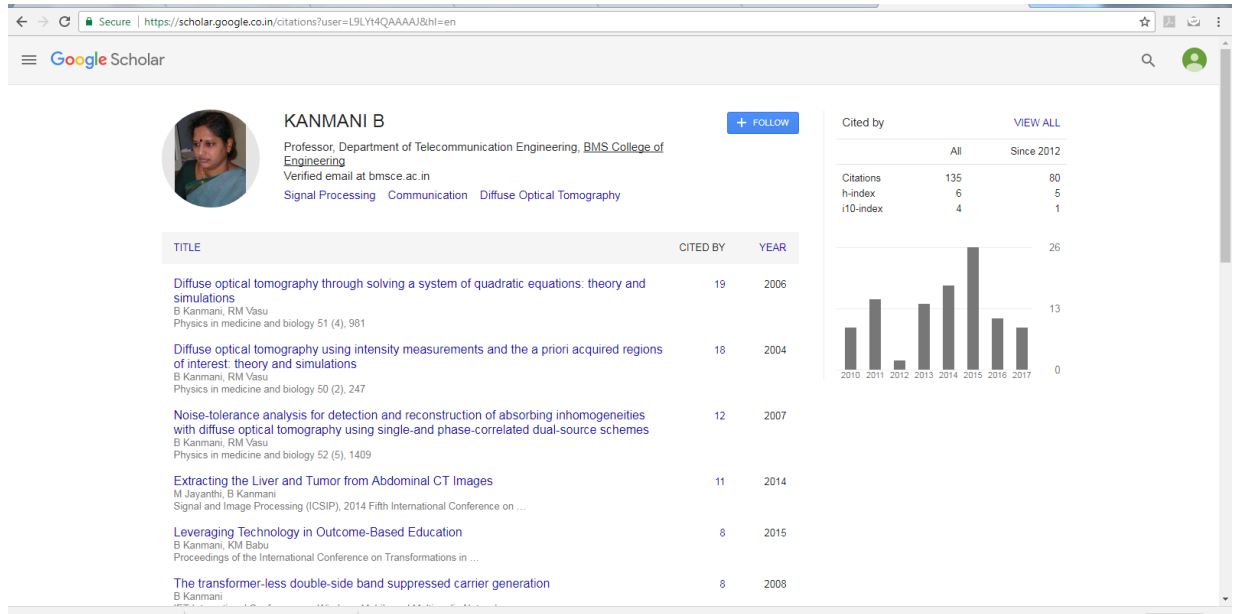
Sl. No.	Faculty	Conference	Venue	Date
1	Dr. Rajeshwari Hegde	Regional Conference on Radio Science	Tirupati	1-03-2017
2		International Conference on Communication and Electronics Systems (ICCES)	Coimbatore.	21-10-2016
3		IEEE International Conference on Distributed Computing, VLSI, Electrical circuits and Robotics (DISCOVER-2016)	Suratkal	August 2016
4	PS Gowra	Regional Conference on Radio Science	Tirupati	1-03-2017
5	M Vasanthalakshmi	Regional Conference on Radio Science	Tirupati	1-03-2017
6	T Anusha Lalitha	MITE 2016	Madurai	7-12-2016
7		National Conference on," Recent Advances in Wireless communication for the design of smart antennas	Tamil Nadu	22-10-2016
8	Dr. C. Gururaj	International Conference on Signal, Image Processing Communication and Automation - ICSIPCA- 2017	Bengaluru	06-07-2017
9		IEEE International conference on Recent Trends in Electronics , Information, Communication Technology	Bengaluru	May 2017
10		IEEE International conference on Recent Trends in Electronics , Information, Communication Technology	Bengaluru	May 2017

11	Balachandra Kumaraswamy	International Conference On Algorithms, Methodology, Models And Applications In Emerging Technologies – 2017	Chennai	Feb 2017
12		Regional Conference on Radio Science	Tirupati	1-03-2017
13	Shreenivas B	2017 Second International Conference on Electrical , Computer and Communication Technologies (IEEE ICECCT 2017)	Coimbatore	22-02-2017
14	Dr. Prasanna Kumar MK	IEEE International Conference On Recent Trends In Electronics Information Communication Technology	Bangalore	19-05-2017
15		International Conference on Circuits, Control, Communication and Computing	Bangalore	06-10-2016
16	Dr. Michael Raj	National Conference on Networking, Embedded and Wireless Systems (NEWS-2016)	Bangalore	03-06-2016

## Citation Index as on 8<sup>th</sup> November 2017

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10	Pushpavathi K P	1	1

# Dr B Kanmani



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Signal Processing Communication Diffuse Optical Tomography

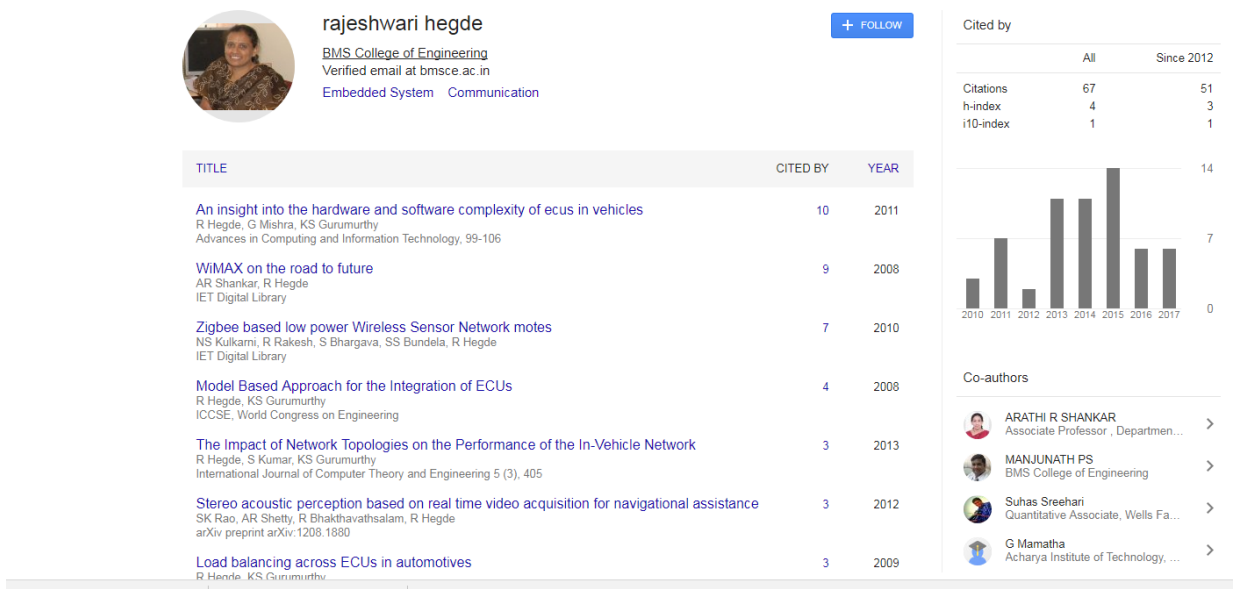
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# Dr Rajeshwari Hegde



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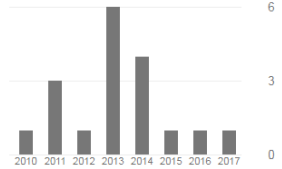
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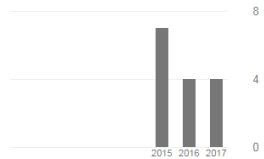
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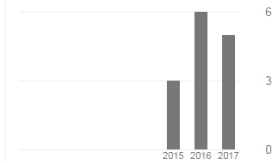
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# B Shreenivas



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Networks Wireless Communication

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# Manjunath P S



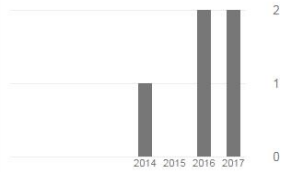
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