Tarang Quicksilver

Department Magazine: Electronics and Telecommunication.

Tarang July 2018

Volume 13

Speed It Up: Fault Tolerance in Aviation

Your Processor uses Steroids.

5G: Welcome To the Blazing Fast Future.

Maharshi Karve Stree Shikshan Samstha's

Cummins College of Engineering for Women, Pune

An Autonomous Institute affiliated to Savitribai Phule Pune University
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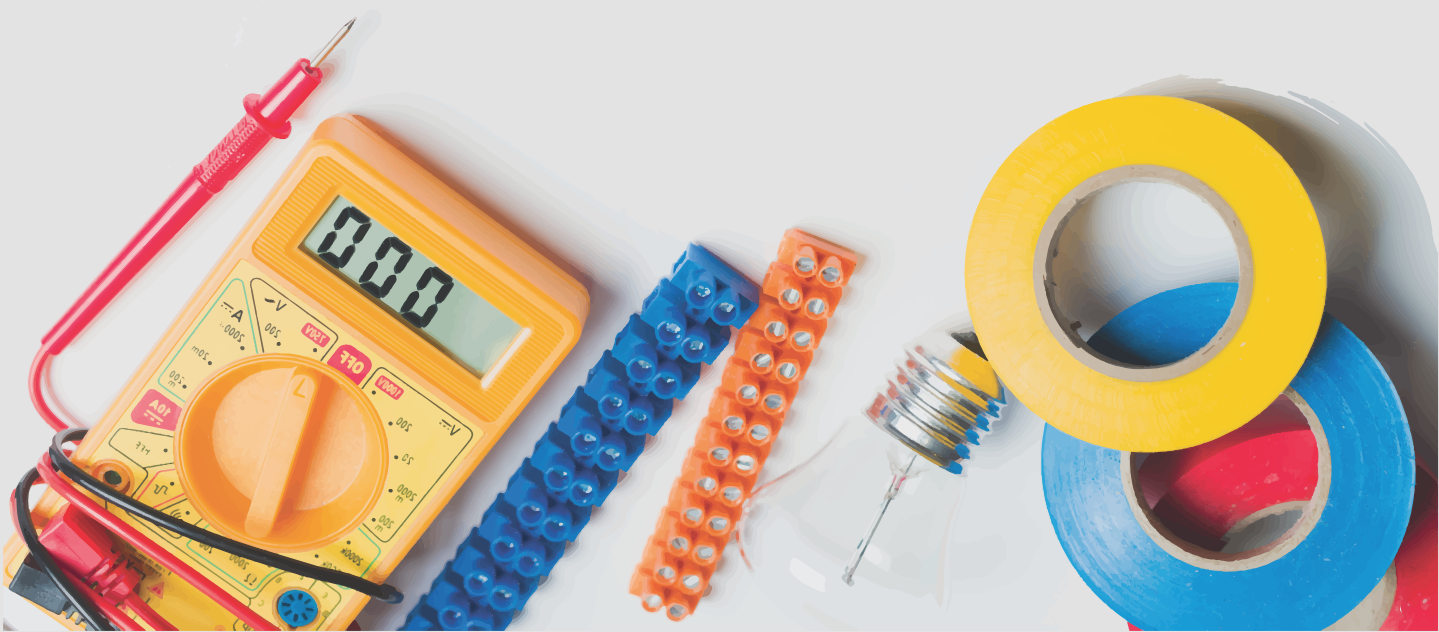
Articles, Department information and much more...



Communiqué from the HoD

Dear All,

I am extremely pleased with the vigor the team is working to bring out this edition of 'Tarang' infused with new sections. The department is NBA accredited again! I congratulate the faculty members and staff for their active participation.

I congratulate all the students who won accolades in academics, sports and cultural activities. The faculty members published papers in reputed journals and conferences and attended workshops. The faculty members also organized workshops, guest lectures and industrial visits for the students to enhance their learning.

The department successfully implemented autonomy for the S.Y. courses. I hope the readers will enjoy the articles and content of this edition of 'Tarang' magazine. I congratulate the editor and team members for bringing out this issue.

Dr. Prachi Mukherji
HoD
E&TC Department

Editor's note

The world as we know it is changing, with the next-gen internet that you will be using to the super fast processor in your new and trendy laptop, whether we're talking about the latest tech in the next aero plane you're going to board or a trip to your neigh bourhood. Everything around you is evolving to give you a better and lightning fast experience. Quicksilver is the word our generation associates with speed yet class, so inspired from that, we present you our July 2018 edition which talks about the the evolutionary technology that awaits us.
We've also have everything you need to know about activities in 2017-2018,we hope that you're inspired from it and enjoy the magazine as much as we loved creating it.
-Editorial team.

Magazine Coordinator: Prof Manasi Pathade
Aditee Rathi, Kanchan Waghchawre, Meghana Bhange, Simran Gumber, Tripti Chanda

Your Processor uses steroids

Meghana Bhange

Intel recently launched it's new hyper-threading technology. The buzz about Hyper-Threading hasn't stopped since. Hyper-threading is intel proprietary multi-threading technology, it improves the performance of your core by making your processor look like two processors to the operating system.

The CPU (central processing unit) has often been called the brains of the PC. But increasingly, that brain is being enhanced by another part of the PC – the GPU (graphics processing unit), which is its soul.

> "It makes a single processor look like two processors to the operating system"

All PCs have chips that render the display images to monitors. But not all these chips are created equal.[1]

The number of cores used in CPU usually range from 2(Dual Core) to 8 (Octa Core). You must have noticed this while buying your PC or Laptop. The number of core increases the ability of the computer to perform parallel operations. GPUs generally have cores close to the range of 100's (384 "CUDA cores" in nVidia GPU) This gives them incredible power to perform parallel tasks. They are really good for graphical tasks, like playing a heavy duty video game or high graphic multimedia application.

Though GPU's may not replace the CPU's they are incomparable when it comes to their performance at computation. The drawbacks these GPUs face is that they are really expensive and not all of us can afford it. GPU is also an extension to your existing computer, where as Hyper-Threading is enhancing your CPU cores.

So, what is Hyper-threading exactly. Here's where thing get interesting. Intel has been developing this technology to improve the process of parallelisation. This is done by creating multiple cores out of a single core.

Intel's Hyper-Threading Technology delivers two logical processors that can execute different tasks simultaneously using shared hardware resources. Hyper-Threading Technology effectively looks like two processors on a chip. A chip with this technology will not equal the computing power of two processors; however, it will seem like two, as the performance boost is substantial. Chips enabled with Hyper-Threading Technology will also be cheaper than dual-processor computers: one heat sink, one fan, one cooling solution, and one chip are what are necessary

The first implementation of Hyper-Threading Technology was done on the Intel® Xeon processor MP.Measured performance on the Intel Xeon processor MP with Hyper-Threading Technology shows performance gains of up to 30% on common server application benchmarks for this technology.[2]

HyperThreading Technology provides another tool in the application programmer's arsenal for extracting more performance from his or her computer system. [3]

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1. NVIDIA What's the difference between CPU and GPU (https://blogs.nvidia.com/blog/2009/12/16/whats-the-difference-between-a-cpu-and-a-gpu/)

2. Hyper-Threading Technology Architecture and Microarchitecture *[Deborah T. Marr, Desktop Products Group, Intel Corp. Frank Binns, Desktop ProductsGroup, Intel Corp. David L. Hill, Desktop Products Group, Intel Corp. Glenn Hinton, Desktop Products Group, Intel Corp. David A. Koufaty, Desktop Products Group, Intel Corp. J. Alan Miller, Desktop Products Group, Intel Corp. Michael Upton, CPU Architecture, Desktop Products Group, Intel Corp.]*

3.Hyper-Threading Technology: Impact on Compute-Intensive Workloads[William Magro, Software Solutions Group, Intel Corporation Paul Petersen, Software Solutions Group, Intel Corporation Sanjiv Shah, Software Solutions Group, Intel Corporation]

5G: Welcome To the Blazing Fast Future.

Tripti Chanda

3, 4 and now 5

The world of technology has many terms which are misunderstood and flung around but none as much or as trending as 3G, 4G or now the up and coming 5G technology. They are so widely used that it is easy to confuse them from what they are.

The G in each term stands for generation denoting a revolution for each standard of technology when it is released. With the hype of 4G still in its height, the tech giants are poised to unleash 5G to its consumer base.

The Network

The G in each term stands for generation denoting a revolution for each standard of technology when it is released. With the hype of 4G still in its height, the tech giants are poised to unleash 5G to its consumer base.

5G was the commonly referred to technology in the Mobile World Conference in Barcelona this year as it was the most significant topic there. Users are still adapting to the advent of 4G technology with many still not having complete access to it. For some it is out of reach as they still have to deal with patchy 3G.

It is not just about the network which has to give the access, but also the cellular device. With each roll out, the device has to have exponential upgrades to support it which is not feasible for all. With the way the development is racing forward, 3G making its debut in 2001, it is hard to keep up for the production line and the consumers.

Expectations – Worldwide

Still in its experimental phase, 5G is expected to roll this year in the United States followed by Japan and South Korea next year with China joining in the year after. Europe is hoping to start slowly by 2020 with wide scale sales starting by 2025. The entire world cannot be a part of it until 2025. Unlike its predecessors, 5G does not only concern cellular devices but integrates the internet of things (IoT) into the network.

Objects around us, like cars, offices, homes and even the streets will be able to interact with each other, making an individual's virtual presence even stronger. This means that not only will the network providers have to expand their bandwidths to accommodate this but also the manufacturers of all other electronic appliances which the technology hopes to interact with.

This would not only be a leap for the network providers but the entire tech industry as a whole.

Expectations – For the Man

With a vision so great in mind, the common man will have to take giant strides to be a part of this. People are still trying to understand the limits and advantages of 4G and most are unwilling to upgrade from 3G. For some who experienced the initial-release versions of 4G are unimpressed with the update completely. These were actually just stop-gap updates launched by the networks to test the waters.

After this feedback, it can be seen that it would be tough for the current 4G users to let go again of a technology that they have just become comfortable with and then move on to upgrade not just their hand-held devices but all the devices around them to accommodate the latest update.

Hurdles

With better technology comes higher price, much higher than what is being spent at the moment. This could mean that to accommodate the higher costs, the network providers might have to shut down the older 2G and 3G networks which a large number of people are still using making the transition not profitable. Also much of the advancements promised by 5G like higher speed and faster data transfer can be accomplished by upgrades in the current 4G network which might deter more users from switching.

Since the network will not be available for quite some time to most, production engineers have a time window in which they can decide the future of this tech. If they are successful in making this user-friendly and easily available, and winning where its predecessor 4G lost out, it would make the entire world faster and bring them closer.

SPEED IT UP: FAULT TOLERANCE IN AVIATION

Simran Kulkarni

Safety is the primary demand for the economic success in the aviation industry. Fault tolerant systems are built to ensure safe operation of digital avionics system performing flight-critical functions. The designer of these systems keeps in mind the required level of safety to passengers, aircrew and maintenance personnel. Such systems are currently in demand due to the increasing complex digital systems. Also, the second contributing factor is the non ideal environment in which avionics system operates, for example, local vibrations, humidity and temperature changes etc which tend to induce stress on the physical components which may cause abrupt failure or gradual deterioration.

A fault tolerant system provides continuous and safe operation in the presence of faults. Fault tolerance in avionics system provides defence against hardware, software, sensor and their interfaces, actuators and data communication among the distributed elements. The system ensures integrity of the output data used to control the flight of the aircraft, whether operated by pilot or auto-pilot. Such a system must detect errors caused by faults, assess the damage done, recover from the fault and isolate it. The faults the system is to be designed to tolerate must be defined based on the probability of the fault occurring and the impact of not tolerating the fault.

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The domains in a fault tolerant system are divided into four categories namely:

1. Physical: Physical failure of hardware components---- *underlying short, open ground faults.*
2. Logical: Manifested logical faults per device behaviour ---- *stuck-at-one, stuck-at-zero, inverted*.
3. Informational: Exhibited error states in interpreted results --- *incorrect value, sign changes, parity error.*
4. System: Resultant system failure provides unacceptable services --- *system crash, deadlock etc*.

A flight-critical system is the one in which the loss may result in the loss of the aircraft itself and possible the person's on board as well. In commercial aviation the system is termed as safety critical system. A safety related system comprises of everything (hardware, software and human aspects) and is designed to lose less than one life per billion (10^9) hours of operation. Typical design methods include probabilistic risk assessment which combines failure mode and effects analysis (FMEA) with fault tree analysis which is highly computer based.

One of the highly used fault tolerance system by boeing and airbus is fly-by-wire which replaces the manual flight controls of an aircraft with an electronic interface. The movements of the flight controls are converted to electrical signals transmitted by wires (thus the name) and the flight control computers determine how to move the actuators at each control surface to provide the ordered response.

Other applications include fuel dumping which is an emergency landing procedure shortly after takeoff where the weight of the aircraft is reduced by ejecting fuel in the atmosphere to ease landing of the aircraft on the run way. APU (auxiliary power unit) is used in case of dual engine failure. It is a fan connected to the turbine which pops out and spins generating power enough for the functioning of all electronics applications and systems. In case of engine fire, fire extinguishers with detectors are present on the periphery of engine and work automatically when fire is detected.

In conclusion it can be said that the need for fault tolerance in aircrafts is highly required keeping into consideration the economic factors and life that is at stake.

STUDENTS ACHIEVEMENTS

- **Shruti Limaye** awarded as the best outgoing student of 2017-18

PLACEMENTS 2017-18

- ***154*** students placed from E&TC department

Sr. No.	Name of Company	Salary Offered (in Lakhs)	No. of Student(s) placed
1.	Goldman Sachs	20	1
2.	Qualcomm	15.61	4
3.	Avaya	12	2
4.	Oracle	10	1
5.	Ittiam	9.35	1
6.	Target	9.06	2
7.	Siemens PLM	9	3
8.	HSBC HDPI	7.25	4
9.	ZS Associates	6.5	1
10.	Schneider Electric	6.25	2
11.	Eaton	6	2
12.	Tata Motors	6	8
13.	Siemens Technology	5.5	1
14.	Sterlite Technology	5	3
15.	SKF	4.75	1
16.	TE Connectivity	4.5	1
17.	Optymyze	4.5	1

Sr. No.	Name of Company	Salary Offered (in Lakhs)	No. of Student(s) placed
18.	Societe Generale	4.31	2
19.	Continental Corporation	4.25	5
20.	Standard Chartered	4.25	4
21.	Vodafone	4.25	3
22.	Bosch	4	9
23.	Varroc	4	6
24.	Takshshila Consulting	3.6	1
25.	Accenture	3.5	42
26.	Johnson Control	3.5	1
27.	Infosys	3.25	15
28.	Wipro	3.25	3
29.	L & T Infotech	3.18	6
30.	ATOS	3.1	8
31.	TCS-Internship- PPO	3.1	3
32.	Brose	3	2
33.	Dana	3	1
34.	JCB	3	5
Total			**154**

ACADEMIC TOPPERS 2017-18

TE Top 5 Rank Holders- SEM 1

Rank	Name of the student	SGPA
First	Shivbhakta Viraha Uday	9.57
Second	Udas Prajakta Ashish	9.43
Third	Gawande Ragini Chandrakant	9.39
Fourth	Arey Sakshi Nitin	9.3
Fifth	Chikhalkar Purva Satishrao	9.09

BE Top 5 Rank Holders- SEM 1

Rank	Name of the student	Percentage
First	Wadekar Sanika Milind	80.93
Second	Pawar Ankita Kedari	79.73
Third	Saundankar Vaishnavi Kiran	79.20
Fourth	Athawale Trupti Sanjay	79.07
Fifth	Solanke Pooja Sanjay	78.93

ROBOCON-2018

A National level event organized by Doordarshan and MIT Academy of Engineering, Pune in March 2018. Following E&TC students were a part of the college team- AVEG 2018.

TE:
Chitra Shashikumar
Manali Dangirkar
Kritika Mulaye
Priya Pitale
Shivani Sabnis
Pauravee Sabnis
Kiran Shete

SY:
Tripti Chanda
Shruti Tol
Anshu Priya
Arti Shinde
Anagha Deogaonkar
Gayatri Shidhay

PAPER PRESENTATIONS

1) Anikta Moholkar, Devashree C. Limaye and Sagarika S. Limaye presented a paper at **4th International Conference on Science, Tech and Management organized by Academic Science in Nov 2017.**
2) Simran Mardhani, Himaja Kandilya and Kshitija Shukla presented a paper in **International Conference on Trends in Electronics and Informatics organized at Tamil Nadu in May 2018.**

TECHNCAL PRESENTATIONS

- **Arpita Kumari and V Saranya** won **first prize** for technical presentation at *INNOVATION 2018*. An intercollegiate event organized by MKSSS's Cummins College of Engineering for Women, Pune in February 2018.

POSTER PRESENTATIONS

- **Pranali Burungale** participated in *12Th AISSMS Engineering today- 2017* state level poster presentation competition organized by AISSMS College, Pune in Sept 2017.

TE MINIPROJECT COMPETITION WINNERS

Position	Name of Students	Title of Mini Project
First	Nikhita More , Darshana Pondkule , Priya Pitale	Visual Inspection System in Fruit Industry
Second	Aarti Kothe, Deoyani Joshi, Rutuja Khedekar	Device Characteristics Plotter using PIC 18F4550 and MATLAB
Third	Aditi Laroiya , Rachana Khairate, Juhi Khairnar	Green Corridor for Ambulance(PIC16F877)
Fourth	Sakshi Arey , Shweta Bhan , Mayuri Mandhane	Automated Billing System in Shopping Cards
Fifth	Arpita Kumari , Mruga Karulkar, Saraswati Khollam	Smart Helmet

FINAL YEAR PROJECT COMPETITION WINNERS

Position	Name of Students	Title of Project	Subject Area	Internal Guide
First	Devashree Limaye Sagarika Limaye Ankita Moholkar	Statistical Classification of Internet Packets for NIDS	Networking	Dr. M.A.Dixit
Second	Vaishnavi Balambeed Sushmita Deo ,Shina Dhingra	Autonomous system to record the level of water in wells	Embedded & Networking	Dr.N.G. Palan
Second	Astha Modak, Shruti Manwatkar Samruddhi Paradkar	Design and Implementation of Driver Distraction Monitoring System	Image Processing	Dr.A.M. Deshpande
Third	Vedita Tiwari, Shinde Sneha Patni Shruti	Concrete brick crack detection using microcontroller	Embedded & Image Processing	Dr. M.S.Borse
Consolation	Archana Pokale, Shweta Sharma Ashwini Shitole	Telematic Insurance system for Vehicles	Embedded	Prof.K.S. Joshi

OTHER TECHNICAL EVENTS (Winners)

Sr.No.	Name of the Student	Name of the event	Month & year	Level	Organizing institute
1	Priti Wani	Techno Competition (RUNNER UP)	18th Sept 2017	College Level	Code Club CCOEW
2	Shubhangi Wanare	Techno Competition (RUNNER UP)	18th Sept 2017	College Level	Code Club CCOEW
3	Pranali Gidwani	Tech Exhibition (WINNER)	18th Sept 2017	College level	Code Club CCOEW
4	Aditi Late	Tech Exhibition (RUNNER UP)	18th Sept 2017	College level	Code Club CCOEW
5	Dhanashri Kulkarni	Tech Exhibition (RUNNER UP)	18th Sept 2017	College level	Code Club CCOEW
6	Tanvi Pardhi Kanchan Waghmare	Alarcity-2018 Game of Circuits (RUNNER UP)	Feb 2018	Inter college	AISSMS, Pune

CULTURAL EVENT WINNERS

Sr. No.	Name of the Students	Event in which participated	Month & year	State/National/ International Level	Prizes/ Medals won
1.	Satparna Paul	Gandhar 2018 Juke box	Feb.2018	College level	First
2.	Tanvi Pardhi Kanchan Waghmare	Gandhar 2018 Fandom Quiz	Feb.2018	College level	First
4.	Rucha Mehta	Terribly tiny tales Gandhar.2018	Feb.2018	College level	Third
		Harry potter Quiz Gandhar 2018	Feb.2018	College level	Second
5.	Sharayu Zirape	Gandhar 2018 Painting	Feb.2018	College level	Third

SWAYAM – NPTEL Certification Course (JAN-APRIL 2018)

Sr No	Course Name	Name of Student	Certificate Type
1.	Cryptography and Network Security	Ananya Sharma	Successfully Completed
2.	Cloud Computing	Sherathiya Mansi Karshanbhai	Elite
		Anvesha Anup Katariyar	Successfully Completed
3.	Introduction to coding theory	Akshata Nitin Khandelwal	Successfully Completed
		Shraddha Vijay Inamdar	Successfully Completed
4.	MATLAB Programming for Numerical Computation	Mayuri Mahendra Patil	Successfully Completed

SPORTS ACHIEVMENTS

Sr. No.	Name of the Students	Event	Month & year	State/National/ International Level	College	Prizes/ Medals won
1	Pradnya Mundargi	Damini 2018 Basketball	Jan 2018	Intercollege	BNCA College	First prize
		Zest 2018	Jan 2018	State	COEP	First prize
2	Shruti Limaye	Damini 2018 Vollyball	Jan.2018	Intercollege	BNCA College	First prize
3	Rucha Mehta	Zest 2018 Cricket Box	Jan 2018	State	COEP	First prize
		Damini 2018 Cricket	Jan 2018	Intercollege	BNCA College	First prize
		Zest 2018 Cricket Field	Jan 2018	State	COEP	First prize
4	Spruha Pingale	Damini 2018 Chess	Jan 2018	Intercollege	BNCA College	First prize
		Chess (W)	Dec.2017-Jan-18	Intercollege Zonal	SPPU	First Prize
		ZEST 2018 Chess	2018	State level	COEP	Second Prize
		ZEST 2018 Chess blitz	2018	State level	COEP	First prize
5	Hemakshi Thorat	Kho-Kho	Dec2017-Jan2018	Intercollege Zonal	SPPU	Runner up
		Damini 2018 Cricket	Jan 2018	Intercollege	BNCA College	Third prize
		Melange 18	2018	Intercollege	VIIT Pune	Runner up
6	Gidwani Pranali	Kho-Kho	Dec2017-Jan2018	Intercollege Zonal	SPPU	Runner up
7	Rutuja Ghorpade	Football	Dec.2017-Jan-18	Intercollege Zonal	SPPU	First Prize

		Football MIT-WPU Summit	14th -18th Sept.2017	National Level	MIT	First Prize
		Football Pentacle	2018	College level	CCOEW	First Prize
8	Chaitali Handrale	PACE 2K18	Jan.2018	Intercollege	AIT Pune	First Prize
		Football	Dec.2017-Jan-18	Intercollege Zonal	SPPU	First Prize
9	Rachita Bagal	Football Pentacle	Jan.18	College level	CCOEW	First Prize
		Football	Dec.2017-Jan-18	Intercollege Zonal	SPPU	First Prize

FACULTY ACHIEVEMENTS

I. Paper Published.

Sr. No	Faculty Name	Paper Title	Journal/Conference
1.	Dr. Prachi Mukherji	A Database of Marathi Numerals for Speech Data Mining	International Journal of Advance Research in science and Engineering (Vol6, Issue (10) Oct 2017.PP. 395-399)
		Modelling Seamless Vertical Handovers in Heterogeneous Wireless Networks	International Journal on Future Revolution in Computer Science and communication Engineering (Vol. 3 Issue 11, Pg 524-531) ISSN : 2454-4248
2.	Dr.S.N. Ohatkar	"GA with SVM to optimize Dynamic channel assignment for enhancing SIR in cellular networks",	International Conference on 'Signal Processing and Communication ICSC -2018', Jaypee Institute of Information Technology, Noida, Uttar Pradesh, INDIA in March 2018. To be published in Springers book series 'Lecture notes in Electrical Engineering'
		" Real Time Implementation of Data Communication using IPV4 Telecom Network through SDHSTM-4 Digital Transmission WAN"	International Journal of Research in Engineering Technology Volume 3 Issue 4 May- June 2018 PP 16-22 ISSN: 2455-1341, DOI: 10.29126/24551341/ENGJ-V3I4P3
		"Applying Bacterial colony optimization to cognitive cellular network for evaluating SINR",	International Conference on Recent Advancements in Computer, Communication and Computational Sciences (RACCCS- 2017), Aryabhatta College of Engineering & Research Centre, Ajmer, India, © Book Chapter: Springer Nature Singapore Pte Ltd. 2018 G. M. Perez et al. (eds.), Ambient Communications and Computer Systems, Advances in Intelligent Systems and Computing 696.
		"Bacterial colony optimization for data rate evaluation in cognitive cellular network",	SMARTCOM 2017, Second International conference on Smart Trends for Information Technology and Computer Communications, Pune, published in Springer CCIS Series (Communication in Computer and Information Science book series) August 18-19 , 2017.
3.	Dr. Anita Jain	Performance evaluation of domino logic circuits for wide fan-in gates with FinFET	Springer Microsystem Technologies (03-01-2018 | Technical Paper DOI: 10.1007/s00542-017-3691-3) Print ISSN: 0946-7076 Electronic ISSN: 1432-1858

			SCI Impact Factor: 1.195
4.	Dr. Seema Rajput	Comparative Analysis of Agricultural Field Monitoring Techniques	International Journal of Recent Trends in Engineering & Research (IJRTER) (Volume 03, Issue 10; October - 2017, Pg: 161-168) ISSN: 2455-1457 **SCI Impact Factor: 4.101**
		Maintaining spectrum sharing through software puzzles in WSN	International Journal of Advance Research and Innovative Idea in Education Volume 04, Issue 3; 2018 ISSN: 2395-4396
5.	Dr. Anita Patil	Classification of Human Emotions using Multiclass Support Vector Machine	Third International Conference on Computing, Communication, Control And Automation (ICCUBEA) in August 2017
6.	Prof.M.S. Borse	3 Dimensional Reconstruction of GM	International Journal of Biomedical Engineering & Technology (IJBET) (Volume 24, Issue 3, Jul 2017, pp 264-284) Electronic ISSN: 1752-6426.
7.	Dr.S.R. Chaudhary	Food Ordering System For Railway Pantry Using Wireless Communication	International Journal of Science, Engineering and Technology Research (IJSETR)
8.	Dr.M.A. Dixit	Internet Traffic Intrusion Detection System Using Adaptive Neuro-Fuzzy Inference System	Second International Conference on Smart Trends for Information Technology and Computer Communications (SmartCom 2017) organized in Aug 2017
		Statistical Based Approach for Packet Classification	4th International conference on Science, Technology & Management (ICSTM-2017), IETE, Pune organized in Nov 2017 (IJMS, Volume 6 Issue 11 Nov. 2017) ISSN 2347-8527
		Mobile Based Digital Storage Oscilloscope	International Journal of Innovative Research in Technology (IJIRT). (Volume 4 Issue 6, November 2017) ISSN: 2349-6002
9.	Prof. S.A. Paranjape	Stable Cluster Based Data Gathering and Congestion Control Protocol for Mobile Wireless Sensor Networks	Journal of Computational and Theoretical Nanoscience (Volume 15, No.1, Jan 2018, page nos. 153-160) **Scopus Indexed**
10.	Prof. M.V. Pathade	Supervised Classification of Type of Crowd Motion in Video Surveillance System	IEEE International Conference on Signal Processing and Communication (ICSPC'17) in July 2017
		Detection of Dispersion in Crowded Scenes for Surveillance Applications	IEEE International Conference on Trend in Electronics and Informatics (ICOEI'18) at SCAD College of Engineering and Technology, Tamil Nadu on 11 and 12 May 2018
		Vehicle Density Estimation using Segmentation Methods for Traffic Monitoring	Journal of Emerging Technologies and Innovative Research Volume 5, Issue 6, June 2018 ISSN:2349-5162
		Moving Vehicle Detection and Counting to Allot Run Time	International Conference on Emerging Trends in Science, Engineering and Technology (ICETSET'18) at DYPCOE,Pune published in International Journal of Pure and Applied Mathematics (Special Issue)

11.	Prof. R. Borhade	EEG Signal Analysis Using Fuzzy Approximate Analysis towards Epileptic Seizure Detection	International Journal of Innovative Research in Technology (IJIRT). Volume 5, Issue 4, April 2017 ISSN (Online): 2320 – 9801
12.	Prof. S.A. Mangale	Object Detection and Tracking in Thermal Video using Directed Acyclic grapg(DAG)	ICTACT JOURNAL ON IMAGE AND VIDEO PROCESSING VOLUME: 08, ISSUE: 01 ISSN: 0976-9102 (ONLINE)
		"Approach for moving object detection using visible spectrum and thermal infrared imaging,"	J. Electron. Imaging 27(3), 033004 27(3), 033004 (2018), DOI: 10.1117/1.JEI.27.3.033004.
		"Gray level co-occurrence matrix feature based object tracking in thermal infrared imagery,"	
13.	Dr S. S. Musale	Smart Reader for Visually Impaired	IEEE International Conference for Inventive Systems and Control organized in Jan 2018
14.	Dr. Ashwini Deshpande	Implementation of Video Stabilization Algorithm for Surveillance System	3rd International Conference on Computing Communication Control and automation (ICCUBEA) in August 2017
		Digit Recognition Using Machine Learning And Convolutional Neural Network	International Conference on Trends in Electronics and Informatics (ICOEI 2018)
		Real-time implementation for digit recognition using Raspberry Pi	
15.	Dr. B. V. Pathak	Speaker Recognition System for Home Security using	"International Conference on Recent Trends in Engineering & Sciences" ICRTES-2018,Vishakhapatnam
		Raspberry Pi and Python	
16.	Prof. S.A.Potadar	Lane departure warning system for advanced drivers assistance	International Conference on Intelligent Computing and Control Systems (ICICCS 2018) in June 2018 978-1-5386-2842-3
17.	Prof Kalpana Joshi	A novel Speech Enhancement algorithm based on Cepstral domain	IISTEM Conference on 13 May 2018
		A Review on Speech Enhancement Techniques	International Conference on Recent Innovation in Engineering,Science and Management on 8th April 2018 IJEECS,Vol 7,Issue 4 :ISSN 2348-117X
18.	Prof.Mahesh K. Pote	Enhancement of Microstrip Patch Antenna Parameters Using Defective Ground Structure	International Conference on Recent Advancements in Computer, Communication and Computational Sciences (RACCCS- 2017), Aryabhatta College of Engineering & Research Center, Ajmer, India, © Book Chapter: Springer Nature Singapore Pte Ltd. 2018 Volume 696, March 2018, pp 69-80

19.	Prof.Padma Hirave	ANovel Approach for Face Detection and Tracking	International Conference on Emrging Trends in Science, Engg and Technology (ICETSET'18) at DYPCOE, Pune published in International Journal of Pure and Applied Mathematics (Special Issue)
		A Review of Various Face Detection Methods	International Journal of Engineering Research and Applications May 2018 issue IJERA Journal vol 8,Issue 5

II. SWAYAM-NPTEL Certification Course (s):

Sr. No.	Faculty Name	Course Name	Grade
1.	Prof. Rupali Pawar	Signal Processing	Elite
		An Introduction to Coding Theory	Successfully Completed
2.	Dr. Anita Patil	Great Experiments in Psychology	Elite
3.	Dr. Anita Jain	Fiber Optics	Elite
4.	Prof. S. A. Potadar	Signal Processing	Successfully Completed
5.	Prof. S. S. Vanarase	Principles for Effective Teaching in Practice	Successfully Completed

III. Conferences/Seminars/Workshops Attended

Sr. No.	Name of Teacher	CSW Attended
1.	Dr.Sharada N.Ohatkar Dr. Ashwini Deshpande Dr.S.R.Chaudhary	FDP101x: Foundation Program in ICT for Education (Online Course, IIT Bombay, Remote centre- CCOEW, Pune)
		FDP201x:Pedagogy for Online and Blended Teaching-Learning Process (Online Course, IIT Bombay, Remote centre- CCOEW, Pune)
2.	Dr.Sharada N.Ohatkar Dr. Ashwini Deshpande	NPTEL certification Course "Outcome based pedagogic principles for effective teaching" (Online Course, IIT Kharagpur, Remote centre- CCOEW, Pune)
3.	Dr. Anita Jain	NPTEL certification course on "Wireless and Cellular communication", IIT Chennai CCOEW, Pune (Online course)
4.	Dr. Ashwini Deshpande Prof. R. T. Suryawanshi	NPTEL certification course on "Analog Circuits and Systems through SPICE Simulation", IIT Kharagpur CCOEW, Pune (Online course)
5.	Dr. Ashwini Deshpande	Machine Learning using Tensorflow at VIT, Pune and Digital Signal Processor at MIT-WPU
		Innovative research in Pedagogy for mini-MOOCs blended with instruction strategies to enhance quality of higher education at VIIT, Pune
		Faculty Orientation workshop on Business Management at RMD-SSOE
		Digital Signal Processor at MIT-WPU
6.	Dr.Anita Patil Dr. B.V.Pathak Prof. Rupali Pawar	AICTE Sponsored Image Processing and Pattern Recognition Applications with Hand-on

7.	Dr.Anita Patil	NPTEL course on " Biology for Engineers" and NPTEL course on " Great Experiments in Psycology"
		NPTEL course on " Great Experiments in Psycology" Online course Conducted by IIT, Kharagpur
8.	Dr. M.A.Dixit Prof. Padma Hirve.	AICTE Sponsored Embedded System Design – A Microcontroller Approach
9.	Prof. A.S.Khade	Faculty Orientation Workshop on T.E. revised syllabus 2015 Course
10.	Prof. G.R.Padalkar	State level FDP on Probability and Statistics for Machine Learning And Deep Learning
		Deep Learning and Image Processing at MIT, Pune
11.	Prof. S.A. Potdar.	Faculty Orientation Workshop on Information Theory, Coding and Communication Networks at AIT, Pune
12.	Prof. M.M.Dewasthale	Faculty Orientation Workshop on System Programming and Operating Systems at PCCOE Ravet
13.	Prof. A.R.Fukane Prof. S L. Sahare	Faculty Orientation Workshop on Mechatronics at AISSSM's IOT, Pune
14.	Prof. T. Kadam	NPTEL certification Course “Introduction to Programming in C ”, IIT Kanpur
15.	Anamika Kumari	Antenna design Ansys HFSS workshop
		NPTEL Certification Course on "Fiber Optics"
		NPTEL certification Course on "Electromagnetic Theory"
16.	Prof. S.S.Vanarase	NPTEL Certification Course on' Effective Engineering Teaching in Practice'
		AICTE-ISTE approved refresher program on 'Recent Advancement in AI & IoT' at Indira College of Engineering, Pune
17.	Prof. Rupali Pawar	NPTEL certification course on "An Introduction to coding Theory' Online course conducted by IIT Kanpur
		NPTEL certification course on "Biomedical Signal Processing" Online course conducted by IIT Kharagpur
		Faculty orientation workshop on ITCCN at AIT, Pune
18.	Prof. Kalpana Joshi	Faculty orientation workshop on Power Electronics at AISSMS, Pune
19.	Dr S. S. Musale	Faculty orientation workshop on Electronic System Design at RMDSOE, Warje, Pune
20.	Prof. S.G. Dube	Faculty Orientation Workshop on T.E. E&TC/Elex Revised Syllabus 2015 Course for Subject ESMP at Dept. of E&TC, IIIT, Hinjewadi, Pune

IV. Award Announcement

Prof S N Ohatkar was awarded the Venus International Women Awards: VIWA 2018: **Distinguished Women in Engineering** for initiatives and developments in the field of Electronics and Telecommunications, on 3rd March 2018 in Chennai and also a Certificate of Appreciation for instrumental role as SPOC (Single Point Of Contact) for the SWAYAM-NPTEL Local chapter. (**Active SPOC** for Jan-June 2018)

V. Resource Person 1 July 2017- 20 June 2018

Sr. No.	Name of Teacher(s)	Title/Topic
1.	Dr. Prachi Mukherji	Expert for faculty appraisal interview on 23rd May 2017 at MIT COE, Pune
		Attended PHD registration seminar at COEP on 11th July 2017
		As Expert in Local Selection Committee on 11th Dec 2017 at KJS Education, Pune
		Publication Chair for VLSID 2018 in Pune from 6- 10 Jan
		PhD registration seminar at COEP on 6th march
		Examiner at PhD progress seminar exam on 3rd June at MIT COE, Pune
2.	Dr.Mrs.S.N.Ohatkar	An Expert lecture on, "Research Methodology", at BNCA College of architecture, Pune on 20th Sept 2017
		Expert lecture at the "Faculty Orientation Workshop on TE Revised Syllabus 2015 Course- Information Theory, Coding and Communication Networks" under aegis of Board of Studies Electronics, SPPU, Pune at Army Institute of Technology, Pune on 15th Dec 2017
		Reviewer of Scopus index journal in 'Journal of Engineering Science and Technology (JESTEC)', ISSN: 1823-4690 in Dec 2017
3.	Dr. Seema Rajput	Paper, Moderator setter of Elective-II-Mixed signal processing at VIIT, Pune
4.	Dr. Ashwini Deshpande	As a judge for e-PGPEX at MESCOE, Organised by BoS Electronics, SPPU, Pune on 9th June 2017
		Delievered an expert lecture on 'Digital Filters' at JSPM Hadapsar on 29th Sept 2017
		Paper setter for Computer Vision (F. Y. M. Tech., ESE) at VIIT Pune
5.	Dr.Anita Patil	As a judge for e-PGPEX at MESCOE, Organised by BoS Electronics, SPPU, Pune on 9th June 2017
		Delivered a lecture on " Microprocessors and Microcontrollers" in the FDP at MNVTI, Pune on 5th Aug 2017
		Member of Local selection committee interviews on 7th Aug 2017 at MMCOE on 7th Aug 2017
		Member of Department Advisory Board (DAB) at E & TC Dept., MMCOE, Pune
6.	Dr. B.V.Pathak	As a judge for e-PGPEX at MESCOE, Organised by BoS Electronics, SPPU, Pune on 9th June 2017
		Review of PhD thesis at Poornima University in Nov 2017
7.	Dr.S.R.Chaudhary	As a judge for e-PGPEX at MESCOE, Organised by BoS Electronics, SPPU, Pune on 9th June 2017
8.	Dr. M.A.Dixit	Delivered a expert lecture on "Computer Network" at Pimpri Chinchwad College of Engg and Research, Ravet on 21st Sept 2017
		Expert lecture at the "Faculty Orientation Workshop on TE Revised Syllabus 2015 Course- System Programming and Operating Systems" under aegis of Board of Studies Electronics, SPPU, Pune at Pimpri Chinchwad College of Engg and Research, Ravet On 14th Dec 2017
9.	Prof. A.S.Khade	Treasurer for Pune IET Local network in 2017-18
10.	Prof. A. S. Divekar	Examiner for validation of Questionare, Paper setter, Moderator for FYBtech at VIIT Pune
11.	Prof. M.V.Pathade	Conducted Latex Workshop for M.Tech. Students on at CCOEW, Pune on 16th April 2018

DEPARTMENT ACTIVITIES

GUEST LECTURES ORGANIZED

Sr. No.	Date of Lecture	Guest Lecturer	Topic	Audience	Faculty
1.	22 Aug 2017	Mr. Onkar Kothari, Bajaj Allianz General Insurance	Professional Ethics	BE	Department
2.	15 Sept 2017	Chandana Oak	Introduction to DBMS and SQL	TE	Prof. S.A. Potdar.
3.	21 Sept 2017	Mr. Krishnan Kutty. TCS	Applications of Digital Image Processing for the Industry	BE	Dr B.V.Pathak
4.	26 Sept 2017	Anamika Kumari	Guidance for GATE Exam	TE	Dr. Anita Patil Prof. Manasi Pathade
		Mr.Pratik Deshpande,From PCB Design Studio.com	Product design consideration in emdedded system	TE	Prof. P.C.Shenolikar Prof. S. G. Dube
5.	27 Sept 2017	Yeshaswi Menghmalani, Cummins Alumnus, Masters' student at Purdue	Tips for MS admissions	TE	Dr. Anita Patil
6.	28 Sept 2018	Dr. Sandeep Phatak	Audio Applications of DSP	TE	Dr. Ashwini Deshpande Prof.M.S.Joshi
7.	11 Oct 2017	Mr. P R Sivakumar, CEO, Maven Silicon	RTL Design and Functional Verification	TE/BE	Dr. Seema Rajput Prof. A.S.Khade Prof. R. T. Suryawanshi
8.	30 Oct 2017	Mr. Sushilkumar Bora, Packet Design India Pvt. Ltd., Pune Mobile: 9096320829	Graphs basics to applications	S Y BTech	Prof. S.A.Paranjape
9.	15 Jan 2018	Siddhi Gupte, Cummins Alumnus	Guidance for MS admissions	TE	Dr. Anita Patil
10.	18 Jan 2018	Amit Dixit Smartserv Infoservices Pvt. Ltd.	TQm, Six Sigma and CMM level	TE	Dr. Prachi Mukherji Prof. Waghmare Prachi
11.	6 Mar 2018	Prof.Vidya Sisale	Introduction to PLC & SCADA	S Y MTech	Prof. Vidya Sisale
12.	15 Mar 2018	Mr. Sunil Bandal Cummins India Ltd. Pune	Project Management Basics	BE	Dr. M.A.Dixit
13.	29 Mar 2018	Mr. Harshad Apsankar and Mr. Nishikant Nigam Avaya India Pvt. Ltd. Pune	Outbound contact centres and Emerging Technologies	BE	Dr. M.A.Dixit
14.	29 Mar 2018	Prof. Patankar	4-Strock Engine Management	TE	Prof. A.R.Fukane

CONFERENCE/ SEMINAR/ WORKSHOP ORGANIZED

Sr. No.	Title/Subject	Dates	Teacher(s)
1.	Design and Implementation of backend VLSI using EDA tool	13 and 14 July 2017	Dr. Anita Jain Dr. Seema Rajput Prof. A.S.Khade Prof. R. T. Suryawanshi
2.	OpenCV and Python for Image and Video Processing Applications	3 and 4 October 2017	Dr. Ashwini Deshpande Prof. M.M.Dewasthale
3.	Outcome Based Education' Workshop	11 March 2018	Dr. Megha Borse
4.	Antenna design Ansys HFSS workshop	2-6 April 2018	Prof M K Pote
5.	TE Miniproject and Competition	3 April 2018	Prof S G Dube
6.	BE Project and Competition	4 and 5 April 2018	Prof M S Pathankar

INDUSTRIAL VISITS ORGANIZED

Sr. No.	Date	Industry Visited	Attended by	Teacher(s)
1.	11 Oct 2017	CIL, Pune	PG(51 Students)	Dr B.V.Pathak Prof. S.A. Mangale
2.	22 Aug 2017	Friction Welding Technology, Pune	BE(90 Students)	Prof. A.R. Fukane
3.	6 Oct 2017	Avaya India Pvt Ltd.	TE(210 Students)	Dr. M.A.Dixit Prof. S. S. Vanarase
4.	March 2018	All India Radio High Power Transmitter, Hadapsar, Pune	SY(216 Students)	Prof. G.R.Padalkar

IET PROJECT COMPETITION

(Pune Local Network)

About the Event

MKSSS's Cummins College of Engineering for Women, Pune organized the IET Project Competition under IET Local Network Pune. Students from various engineering colleges and disciplines participated in this competition and showcased their projects.

IET Project Competition Organizing Team

- Mr. Amitkumar Khade, IET coordinator, MKSSS's CCOEW
- Deepti Patil, Student Coordinator (TE E&TC)
- Shabnam Shaikh, Student Coordinator (TE E&TC)
- Nikita Mhetre, Student Coordinator (TE E&TC)

Around 25 teams participated in the competition with participants from the colleges such as PICT, PVG, MIT-COE, D. Y. Patil College and Cummins College. We tried to ensure fair evaluation of the competition by calling the judges from eminent industries.

Judges

- Mr. Tushar Yadav, Production Manager, LEAR Corporation
- Mr. Pravin Langade, Team Lead, LEAR Corporation
- Mr. Amol Gulhane, CEO, Robolab

Although all the projects were noteworthy, the winners were selected based upon their innovative ideas and presentation skills. The winners are as follows:

- **Winner**

  Project name: Accidental Control System

  Group: Abhishek Shah and team

  Prize money: Rs. 7000/-

  College: PVG

- **1st Runner -Up**

  Project name: Smart Print Peeler

  Group: Likhita Poolla and team

  Prize money: Rs. 5000/-

  College: Cummins College

- **2nd Runner-Up**

  Project name: Dry Waste Segregation

  Group: Pushkar Deodhar and team

  Prize money: Rs. 3000/-

  College: PICT

  Around 18 students from the college volunteered and helped the organization team. Due to their efforts along with the participants and valuable contribution by the judges, the event was a great success.

TE mini project/BE project competition.