

# PUNE SECTION NEWSLETTER

Issue 1 Volume 2 Dated: 23rd July 2012

## IN THIS ISSUE

### *From the Editor's Desk*

#### 1) A Tale of Truth

### APRIL 2012

#### 2) ICEM: IEEE Student branch inauguration

### MAY 2012

#### 3) Membership Development Workshop

#### 4) Prof. Pierre Moulin speaks

#### 5) WTISD report

### JUNE 2012

#### 6) Signal and Image Processing Project Competition

#### 7) ESDPIC Workshop

#### 8) MD Strategy and Plan 2012

#### 9) Notifications

## From Chairman's desk



I am happy to introduce you IEEE Pune Section's April-June 2012 newsletter to all our members. During this quarter, we saw important events like World Telecommunications Day, visit of Prof. Pierre Moulin- Distinguished Professor of Signal processing society, Signal processing competition etc.

Due to exam schedule falling during this period, the overall student participation was low during this quarter. Colleges are opened up now and the campuses are abuzz with lot of energy, enthusiasm and activities.

Dr. Tirthajyoti Sarkar has kindly agreed to take on the editorial activities of the newsletter. On behalf of the IEEE Pune section and the member community, I heartily welcome him.. He is ably supported by Ms. Dimple Shah , Ms. Pooja Bhurke , Ms. Jai Chhatre of PICT in the newsletter activities. His article "A Tale of Truth" is very interesting and a must read for everyone!

In the month of April this year, following members have come onboard of the Pune Section Execom:

1. Dr. Pradeep Chatterjee– Head – Enterprise Applications, Tata Motors - Industry Relationship Chairman, IEEE Pune Section
2. Dr. Sebastian Gracias - Director – Engineering, Saankhya Labs – Member, IEEE Pune Section
3. Dr. Girish Tatke – Consultant, Member IEEE Pune Section
4. Mr. Madhav Sawant – Senior Director, Sungard Data Systems - Member, IEEE Pune Section

IEEE Pune Section has now a good representation from both Industry and academia. Kindly visit our website <http://ieeepunesection.org/>

Wish you a happy reading. We welcome your articles, comments,suggestions.

- Avinash Joshi

## **From the Editor's Desk**



*Dr. Tirthajyoti Sarkar, Member, IEEE*

*Senior Device Engineer, Fairchild Semiconductor,*

*Yerawada, Pune-411006*

*Email: [tirthajyoti.sarkar@fairchildsemi.com](mailto:tirthajyoti.sarkar@fairchildsemi.com)*

This is the second issue of IEEE Pune section newsletter. This is also first time that I am being associated with its publication. I would like to extend my sincerest appreciation to Dr. Avinash Joshi for giving me this wonderful opportunity of getting associated with this effort. Our resources may be limited, but our efforts are honest and our commitments are true.

I cannot express my gratitude enough for Dimple Shah , Pooja Bhurke and Jai Chhatre, three young students who have made the final publication possible by meticulously compiling all the inputs from Dr. Joshi and me. We tried to capture personal essays, news events, college student competition information - a colorful rainbow! And these two young volunteers made it all look beautiful with their editing and formatting!

As always, we seek your feedback on how to make this newsletter a better platform to represent the best snippets of the happenings in the academic and professional community in and around Pune. We also need your active participation in terms of sending us the news and photos of relevant events or writing an article or two for the young eager minds. It is our very own online magazine, let's keep making it better...

[BACK TO TOP](#)

## **1)A Tale of Truth**

“It was the best of time, it was the worst of time” – so goes the most celebrated prologue of the entire English literature in the opening paragraph of “*A Tale of Two Cities*”. We are not talking about the era of seventeen hundred eighties in this article. Our discussion would span a rather broad period in time and a rather wide expanse of space. May be, we will cover a few billion years, starting from the very instant of creation and we will cover the entire arena of observable universe. Or, may be, we will fuse the time and space together in the realm of singularity where clock stops ticking, dimensions of length, breadth, and height vanish, and one can face the Creator with the question “*Did you have any choice of your own while creating this universe?*” I will try to put forward a simple ‘*Tale of a Truth*’, as it has come to me.

I happen to be, by training, an Electrical Engineer and currently am involved in research and development work on semiconductor device and technology. But, time and again I have gone back to my first love – physics to know about the universe we live in, to understand the laws that govern its working – the same laws that determine on one hand how a cricket bat hits the ball for an elegant cover drive and on other hand how a geo-stationary satellite gets placed in the rotating orbit around the earth. These readings have shown me the mystery and magnificence of Mother Nature, her breathtaking beauty, her sparkling symmetry. In this article, I’ll try to give a synopsis of my feelings.

We live in a world, dominated by science and technology. We breathe it, eat it, and sleep in it. It touches our life in every conceivable manner, from dawn to dusk. We use television, telephone, telecommunication systems, medicine, internet, processed food, electricity, automobile... the list goes on. Technology is omnipresent, ubiquitous. Yet, I think this is not the culminating achievement of modern science. Science in 20<sup>th</sup> century, hand in hand with theoretical and experimental physics, has illuminated us with a truth far more important. It has given us a deeper self-realization, a sense that unites us with the farthest star in the sky, a knowledge that establishes the truth uttered by Vedic sages - that we are the son of eternity (*Amritasya’s Putra* as we are called in Vedic literature).

Physics, at the turn of 19<sup>th</sup> century, was thought to be finished, saturated from the pure intellectual or conceptual point of view, only mere details are to be worked out. The great crown jewels of 19<sup>th</sup> century physics - theories of thermodynamics and Maxwell’s laws of electromagnetism along with the solid edifice of classical Newtonian mechanics were thought to be sufficient to explain all natural phenomena. All was well.

Perhaps, it was not to be.

The feeling of calm was shattered by a few ground-breaking discoveries at the last decade or two, namely the discovery of sub-atomic particle electron and radio-activity. Science delved

deeper into the structure of matter, we learnt that ‘indivisible’ atoms are not that ‘hard nut to crack’ at all! A tiny spark of light on a metal produced electric current – this was called ‘photo-electricity’. Evidences were mounting up suggesting that our understandings of the laws of nature are not complete, they fail to explain the behavior of matter at sub-atomic scale i.e. where we are dealing with length like one-billionth of the breadth of a human hair.

The greatest shock, however, did not come from any renowned scientist or esteemed university research lab. A 26 year old ordinary-looking clerk was working on his strange ideas in a small patent office in Bern, Switzerland. He had an ailing wife and a small child to support. He had all the problems that a low-income ordinary man could have. At the end of the day, he should have gone back home, help his wife cooking dinner, take care of little child and get a quiet night’s sleep only to start another mundane day at office.

Instead, he did something extra-ordinary. He changed the way we see the universe. He changed the way we define time. He single-handedly erected a grand-pillar of physical knowledge that stands till today as one of the highest edifices of human intellect. He empowered us to calculate the age of the universe, to send satellite in space, to pin-point a car anywhere in the world within few meters precision Time magazine elected him the ‘person of the century’ above all the great politicians, thinkers, leaders of nations that 20<sup>th</sup> century has seen. A cartoon was published after his death showing our solar system. The planets were marked with their name, distance from Sun, rotation speed, chemical composition etc. Earth was only marked “In this planet – lived Albert Einstein”.

Einstein’s contribution is named “Theory of relativity”. It has two forms – special and generalized. The special theory tells that time and space are not separate entities. They are the two faces of a single entity, called ‘space-time’. It makes some bizarre predictions, such as if you drive a car very fast, say about 100,000 miles per second, the length of the car will be shortened, you will weigh more (mass will increase), and your wrist-watch will run slower! The more you approach the limit of velocity of light (1, 86,000 miles per second) these changes will be more pronounced. If you could run as fast a light beam, time will halt for you! You will never grow old! This is not science-fiction. This has been verified time and again with ultra-precision experimentation using most sophisticated instrumentation. Only catch is that we need enormous amount of energy to drive something as heavy as a car in that speed which is clearly beyond our capabilities at the present time. Alas, we cannot stop growing older, yet!

His other theory tells us the nature of gravity. Every school student, in their textbook has read about the fall of the apple on Newton’s head and his law of gravitation. Often, there is a small mistake in the representation. Newton did not discover gravity. Gravity was there from the begging of the creation of this universe. Newton discovered the law of gravity – the mathematical form in which he could express the force that the earth exerts on an apple or the Sun exerts on the Earth. However, Newton could not tell why gravity is there. For nearly 300 years, nobody could. Einstein showed that gravity exists as a result of the curvature of space! Our surrounding is not entirely smooth, it is little curled up. The presence of matter bends the

space around it and in this 'bent' space things move in straight line so that we think they are attracted to each other by gravity. Imagine a sheet of cloth, taut and held firmly. Drop a heavy ball in its middle. That portion will bend and there will be a downward slope towards the centre from all around. Now drop a small pebble at one corner. Due to the 'bending' or slope the pebble will slide towards the heavy ball at the middle. When this happens on a grand scale, we see the movement of the pebble as the result of gravitational attraction, much like the movement of the apple towards the ground.

Einstein's theory deals with very large and ultra high-speed objects such as stars, galaxies, or fast moving sub-atomic particles. There is another theory for the world of very small things and that is 'Quantum mechanics'. It deals with things like electrons, protons, things smaller than atom. This is not only a physical theory, but the theoretical underpinning of all modern scientific disciplines (except gravitational physics). Without quantum mechanics there would be no microbiology, physical chemistry, genetics, and bio-chemistry. Entire semiconductor electronics is built upon quantum mechanics. The very existence of the computer using which I am writing this article is dependent on quantum mechanics. Every cell phone you use, every television you watch, every iPod you listen to, is built on the principle of quantum mechanics. However, apart from this practical side, quantum mechanics, in its deepest core, is as bizarre as theory of relativity. It says that a particle can be at two different places at the same time! It says that there is a limit of how precisely we can measure velocity or energy of a particle. This is not a limitation of our instruments. This is a fundamental limit imposed by Mother Nature. As if, she will not unveil her full beauty. There will be a little shroud of mystery around her always.

Relativity and quantum mechanics are two most successful physical theories of modern science. There is, however, a stark conflict between them. The theory of very large and the theory of very small cannot see eye to eye. There is no unified version so far which reconciles the principles of these two and such a unified theory is the ultimate aim of physicists today. They call it daringly "The Theory of Everything"! The reason is that there are four types of fundamental forces in nature. Three of them can be explained by quantum mechanics. The rest, gravity, can be explained by relativity. Therefore, a unified theory would be able to explain all the forces and all the interactions in nature. If you laugh at a joke, that is because you hear some words – interaction of sound with your ear-drum and your brain processes that sound by chemical reactions – interaction between some molecules. If a baseball player hits a home run, his bat interacts with the ball in a certain way. When you talk with someone on cell phone it is the interaction between electrical and magnetic fields which creates waves which are transmitted by the hidden antenna in your phone. If the Earth rotates around the Sun, it is because of the gravitational interaction between these two heavenly bodies. If a theory explain all possible interactions in the universe, certainly it can be called 'theory of everything', isn't it?

We don't know the complete formulation of this unified theory but we already know some very interesting facts about our universe which could be explained by this theory. We also know today that each of us is made from the same elements that exist in the farthest star in the sky.

Every living being on this earth - human or a small butterfly is made from this 'stardust'. This cosmic dust makes galaxies, gives birth to star. Some star may have planets around them. In one of those planets there may be atmosphere like our earth, there may be life. We know today that some billions of years ago this vast universe was as small as a peanut. There was no time, no space. All of the creation started from a cosmic explosion called 'Big Bang'. These are scientific facts, predicted by sound theories and corroborated by experimental evidence. But we have seen these facts in a little different form in our ancient texts, in Vedic enchantments ('Slokas'). We know of 'Bramha' – the supreme creator, for whom one single day is millions of years in the clock of earth. Relativity theory teaches us that time runs slow when the speed approaches the velocity of light. One single day can really be equivalent to millions of years - a queer similarity! We have read in our ancient literature the birth and death of star, and the harmony between those cosmic phenomena and our life.

I may not be a physicist or a renowned expert on these subjects. I don't need to be. I have experienced an illuminating truth through my reading and thinking for which no knowledge of advanced mathematics or physics is necessary. It is a simple truth – that harmony and symmetry are the most important features of our nature. There is always a pair. And there is always harmony between them. There are two broadest kinds of particles in the whole universe. Fermions and Bosons. They make a pair. Einstein showed that matter and energy are interchangeable. They make a pair. Relativity showed time and space are same. They make a pair too. We see other pairs all the time around us. Male and female. Good and evil. Light and shadow. Love and hatred. Life and death.

And there is symmetry between them. Matter converts into energy and vice-versa. That is the energy source of all the stars. That is what keeps the Sun shining and the source of life on earth. Time and space has the symmetry between them. Man and woman walk together hand in hand. Light and shadow play little hide-and-seek game. Death cannot stop the march of life – it goes on. In spite of all the hatred, love triumphs.

This is the teaching of modern science, a simple reality, but a supreme truth nonetheless. And that is my belief about the nature of life, science, and truth.

-Dr. Tirthajyoti Sarkar

[BACK TO TOP](#)

## **2) ICEM: IEEE Student Branch inauguration**



**Felicitation of the Dignitaries**

On April 17, 2012 the student branch of IEEE was inaugurated in ICEM along with the launching of the first issue of IEEE magazine 'INSIDER'. The inaugural ceremony was held at Sir Vishveshwarya hall. The guest of honor for the event were Mrs. Madhuri Joshi, Vice Chairman IEEE Pune section, Dean R & D, COEP, Pune and Dr. Mr. Rajesh Ingale, Secretary IEEE Pune section, Computer Dept. PICT, Pune along with college Director Dr. R.V. Kulkarni. In accordance to the Indira tradition, the program was started with the National Anthem followed by lighting of the lamp by the dignitaries. The guests were welcomed and felicitated by Dr. R.V. Kulkarni sir and Prof. A.M. Patki madam with a sapling and a token of love and appreciation by the college. After the felicitation of the guests, IEEE student branch chairman UjjawalSiddharth of T.E. (E&TC) told the students, staff and guests about how the IEEE branch came into being in our college with the support of the college management, staff and keen interest shown by the students. He, then introduced the audience to Indira's first ever technical newsletter published under IEEE, *INSIDER* which stands for *ICEM Student's Initiative for Development in Engineering*. This was followed by the launching of the magazine by the guests. The magazine was edited, compiled and published entirely by the student members of IEEE along with the valuable help and inputs given by the staff. Later, Director R. V.Kulkarni told the students that ENTIC was the first department in the college to undertake initiative of starting a student branch of an international reclaimed organization and congratulated the HOD, staff and the students for the same. He motivated students to come forward and take initiative to make this branch one of the best in Pune section.



**Launch of INSIDER**

After the valuable words of inspiration by the Principal, Mrs. Joshi madam addressed the students. She explained the students how they can first join and contribute to the IEEE branch in their respective colleges as the student members and later become full time members of IEEE. She motivated students to take full benefits of their IEEE Student membership. Then, Mr. Ingale Sir told the students about the brief history of IEEE and how student branches all over the world

function. He also informed the students about how the Pune section of IEEE went on to become a full fledged section from being associated with the Mumbai section. He asked students to work hard to make this student branch a successful one. The ceremony was concluded with presentation of the vote of thanks by Mrs. Patki Madam, who urged the students to strive together under the guidance of the teachers to make sure that the branch remained active, benefitted the students and gave them a perfect platform to express their ideas and share their knowledge. Madam in her speech also expressed great thanks to Chairperson Dr. Tarita Madam and IGI group Director Prof. Chetan Sir for their kind support in making the function successful.

[BACK TO TOP](#)

### **3) Membership Development Workshop**



**Dr.Joshi, Dr.Ingle,Prof.G.S. Mani  
interacting with the professionals**

An “IEEE Workshop” was held at Infosys, Phase-I Campus, Hinjewadi, Pune on 11th May’12

The Objective of the workshop was to raise the awareness about IEEE among professionals at Infosys. It was conducted by Dr.Avinash Joshi, Chairman, IEEE Pune Chapter, Dr. Rajesh Ingle, Secretary, IEEE Pune Chapter and Prof. GS Mani, Chair, IEEE Membership Development, IEEE Pune Chapter and attended by about 25 professionals from Infosys.

An introduction about IEEE and its activities at global level and at Pune Chapter level was presented to the audience. Later specific points which can help a professional to grow by joining IEEE were addressed. This was followed by a lively discussion on various aspects of becoming IEEE member. Being an IT based group, some discussions were centered on the relative advantages of IEEE and ACM membership.



**Attendees for the workshop**

To sum up, it was a lively interactive session and it is hoped to be followed by further interactions between IEEE and Industry.

The workshop was coordinated by Mr. Hemant Dandegaonkar (Mob: 98226 18320) and Mr. Atul Gupta (Mob: 97665 65060) from Infosys.

- Prof. GS Mani

[BACK TO TOP](#)

## **4) Prof. Pierre Moulin speaks**

IEEE Signal processing society chapter DLT lecture was organized at College of Engineering, Pune on 14<sup>th</sup> May 2012 at 3 p.m. There were about 50 attendees present, who were faculty, and Ph.D. and Mtech students. About 20 were IEEE members

Speaker: *Prof. Pierre Moulin*

Title: "Information Embedding: From Theory to Practice"

Abstract:

Watermarking, fingerprinting, and steganography applications require the secure

Embedding of information bits into a cover signals (audio, video, etc.) This talk gave an overview

Of the fundamental concepts and outlines practical approaches to such

problems.



**Prof. A.D. Sahasrabudhe – Principal, CoEP welcomes Prof. Moulin**

Speaker:

Prof. Moulin served as Associate Editor, IEEE Transactions on Information Theory (1996-1998); IEEE Transactions on Image Processing (1999-2002); and as Area Editor (2002-2006). Prof. Moulin's fields of professional interest are: information theory, image and video processing, statistical signal processing and modeling, decision theory, information hiding and authentication, and the application of multi-resolution signal analysis, optimization theory, and fast algorithms to these areas.

Dr. (Mrs.).M.A.Joshi gave brief introduction about College of Engineering Pune and IEEE Pune section

## Introduction:

Today secure communication is often identified with Cryptography. However, some aspects are still not at all addressed by cryptographic techniques. For that purpose, there are many applications ranging from copyright protection to content authentication, watermarking, steganography in which data hiding methods plays important role.

Information hiding is an emerging research area which encompasses applications such as copyright protection for digital media, watermarking, fingerprinting, steganography, and data embedding. In these applications, information is hidden within a host data set and is to be reliably communicated to a receiver. The host data set is intentionally corrupted, but in a covert way, designed to be imperceptible to a casual analysis. Next, an attacker may seek to destroy this hidden information, and for this purpose, introduce additional distortion to the data set. Side information (in the form of cryptographic keys and/or information about the host signal) may be available to the information hider and to the decoder.

## Applications:

### Steganography:

Steganography is writing hidden messages in such a way that no one, apart from the sender and intended recipient, suspects the existence of the message, a form of security. The advantage of steganography, over cryptography alone, is that messages do not attract attention to themselves. Therefore, whereas cryptography protects the contents of a message, steganography can be said to protect both messages and communicating parties.

### Authentication:

Authentication is the act of confirming the truth of an attribute of a datum or entity

### Least Significant Bit (LSB) embedding:

It exploits the fact that the level of precision in many image formats is far greater than that perceivable by average human vision. Therefore, an altered image with slight variations in its colors will be indistinguishable from the original by a human being, just by looking at it. By using the least significant bits of the pixels' color data to store the hidden message, the image itself will seem unaltered.

### Basic Properties:

#### Fidelity:

Embedding of information should not cause perceptual degradation of host signal.

Payload:

Payload refers to number of bits of information that are embedded in the host signal .This can vary from megabytes of information to few bits. Payload is often normalized by number of sample of host signal.

Robustness/Security:

Robustness refers to ability of embedding algorithm to survive signal processing operation such as a compression, filtering, cropping, and insertion.

Delectability:

In most data hiding, no secret is made of fact that information is embedded in host signal.

At the end of Lecture Prof.S.P.Mahajan gave the Thanksgiving speech. The Lecture was Co-coordinated by Dr (Ms) S.P.Metkar (IEEE Member) and VirendraJadav (IEEE Member).There were 40-50 members who attended the lecture including M.Tech students, Ph.D students and staff. Snacks was arranged for attending and co-coordinators



**Prof. Moulin with COEP Faculty and Researchers**

[BACK TO TOP](#)

## **5) WTISD Report**

“WORLD TELECOMMUNICATION AND INFORMATION SOCIETY DAY”

The 44<sup>th</sup> World Telecommunication and Information Society Day was observed on 17<sup>th</sup> May 2012 in association with Institute of Engineers, Pune Local Centre (IEI PLC) at their Shivajinagar office. The theme for this year’s event was “Women & Girls in ICT”.

Mrs. Jayashri Panvalkar, Senior Director, NVIDIA, Pune was the Chief Guest. Mrs. Anita Kane, the Principal consultant and global delivered Head, TCS, Pune was the Guest of Honour.



**Mr. Avinash Joshi, Chairman, Pune Section, addressing the audience**

Mr. Amol Bora, Chairman (IEI PLC) felicitated the Chief Guest by presenting bouquet & memento. The Guest of Honour was felicitated by Dr. Avinash Joshi the Chairman, IEEE Pune Section. The three outstanding ladies namely Prof. Dr. Mrs. Madhuri Joshi, Dean R&D, College of Engineering Pune, Prof. Dr. Mrs. K.R. Joshi-

Principal, Modern College of Engineering & Prof.



**Mrs. Anita Kane of TCS addressing the audience**

Dr. Mrs. M.B. Khambete were felicitated for their achievement and contribution in the field of engineering education.

Mrs. Anita Kane the Guest of Honour in her address explained the importance of Engineer’s domain, Band width for multimedia application, networking and Communication technology. She highlighted the upcoming opportunities in Research & Development in the Information, Communication and Technology

Mrs. Jaya Panvalkar, Chief Guest in her keynote address briefed about the roles of Girls & women in ICT. She advised one to be professional in the ICT field. She said that in the era of technological advancement nowadays 6.5 billion Transistors are being developed. However, she expressed concern about less percentage of girls in technical education field and even lesser number of women taking career in ICT. She urged girls for the rising



**Mrs. Jayashri Panvalkar, Director, NVIDIA is addressing the attendees at the WTISD meeting**

opportunities in the Communication field

Mr. D.G. Patil the Hon. Secretary, IEI PLC, proposed the vote of thanks. The celebration was followed by tea

[BACK TO TOP](#)

## **6) Signal and Image Processing Project Competition**

“Fifth IEEE Signal processing society chapter, Pune section”

“Project Competition on Signal and Image Processing”

Date: June 11, 2012

Venue: Department of E&TC, College of Engineering, Pune.

Fifth Project Competition on Signal and Image Processing for Undergraduate and Post Graduate Engineering students, under IEEE Signal Processing Society Chapter, Pune section, was organized by College of Engineering, Pune, on 11<sup>th</sup> June 2012,

The competition provides the forum for our budding Engineers to play their ideas and to get the expert guidance exclusively in the field of Image and Signal Processing.

The competition was conducted in two rounds. First round was the screening Round and second was the Demonstration/Presentation Round. We received 24 entries for UG category and 18 for the PG category. Abstract of the projects were reviewed by an experts in the respective areas for the first round. Judges for the Screening Round were -

1. Dr.Seva Panda (VIAN Technologies)
2. Mr. Jaydeep Gokhale (Sasken)
3. Mr. Sebastian Gracious (Saankhya Labs)
4. Mr.Parag Naik (Saankhya Labs)
5. Mr. Narendra Joshi (Ten Silica)
6. Mr.Satish Godbole (Wavelet Group)
7. Mr.Vinay Vaidya (KPIT Cummins)

From the Screening Round, eight projects from UG category and seven projects from PG category were shortlisted for the final Presentation Round.

The competition was judged by eminent personalities from various industrial, they were

1. Mr.Satish Godbole (Wavelet Group)
2. Mr. Sebastian Gracious (Saankhya Labs)
3. Mr.Parag Naik (Saankhya Labs)
4. Dr.Seva Panda (VIAN Technologies)
5. Mr.Kuttikrishnan (KPIT Cummins)
6. Mr. Jaydeep Gokhale (Sasken)

The judges thoroughly evaluated the performance of the participants on the basis of innovative idea, hardware/software implementation, understanding of projects and presentation skill. Finally, the judges embarked on the tough task of selecting the winners. Three winners were declared in UG category and two from PG category.

For UG Category winners are:

Rank	Project Title	Members	College
First	Generic Object Recognition using Neural Network on Cuda Platform	Varun Baranwal	Maharashtra Institute of Technology, Pune
		Kurhade Aniruddha	
Second	Image Storage optimization Using Various Colour Spaces	Atman Mehta	MES modern college of Engineering, Pune
		Rohit Ingle	
		Varun Nair	
Third	Automatic Detection of acute lymphoblastic leukemia	Shashank Dubey	PES modern College of Engineering, Pune
		Abhiruchi Chavan	
		Sourin Ghosh	

For PG category winners are:

Rank	Project Title	Members	College
First	Scalable Image Coding Using EZW Algorithm	Prajyot Mohite	PES modern College of Engineering, Pune
Second	FPGA based hardware implementation of temperature estimation algorithm using image processing.	Amey Patil	College of Engineering, Pune

The prize distribution was carried out on the day itself in the presence of all the judges.

It was really great to see the enthusiasm in participants. Such competitions really encourage students to present their ideas.

The event saw immense efforts put in by Prof. Dr. Madhuri Joshi, Chairman, IEEE Signal processing society chapter, Pune section, Dean R&D, COEP and Dr. Shilpa P. Metkar, Assistant Professor COEP, who was the coordinator for the event. Virendra Jadav, Amit Deshmukh, Pratik Ubale, Sheetal Pawar and Rashmi Hirve, Kamlesh Pujari were the student volunteers of the project competition

[BACK TO TOP](#)

## **7) ESDPIC-Workshop**

Pune Institute of Computer Technology, Pune  
Department of Electronics and Telecommunication

### **Report on:**

ISTE Approved National Workshop on

**Embedded System Design using PIC Microcontrollers (ESDPIC - 2012)**  
(18 June 2012 - 22 June 2012)

Pune Institute of Computer Technology (PICT), an Engineering College established in 1983, has been amongst the leading institutes in Information Technology education and Research. PICT is

focused on creating versatile engineers who can apply their knowledge and skills across the world.

The Department of Electronics and Telecommunication, a synergistic product of many proactive minds, organized an ISTE approved National workshop on “Embedded System Design using PIC Microcontrollers (ESDPIC 2012)” in association with Microchip, Pune, e-Prayog, WEL Lab, IIT Bombay and IEEE Signal Processing Society, Pune Section, during 18<sup>th</sup> June to 22<sup>nd</sup> June 2012.

This workshop aimed to target postgraduate students, faculty, and industry personnel for imparting hands-on training for the design and development of embedded system using PIC (8-bit, 16-bit and 32-bit) microcontrollers with the help of various tools like MPLAB, PROTEUS and development boards. The workshop also included interfacing the PIC microcontroller with various advanced peripherals like USB, CAN, GLCD etc. and also development of systems for home appliances, motor control, TCP-IP, wireless etc.

This workshop was approved by ISTE, New Delhi under self-financed category. Being ISTE approved, this workshop was of interest to many faculty members across Maharashtra. The ISTE life members were given a concession in registration fees.

PIC family of microcontrollers is one of the most popular microcontroller family provided by Microchip. Thus Microchip, Pune, supported the workshop by being one of the Technical Sponsors. The hands-on session needed PIC based development boards for system design and development. This responsibility was taken by e-Prayog, IIT Mumbai. e-Prayog at Wadhvani Electronics Lab, IIT Mumbai, Is a part of virtual lab project, launched by Ministry of Human Resource Development (MHRD), India, under NMEICT. e-Prayog has developed low cost development board Aurum v1.1 for hands-on experience on PIC. Being one of Technical Sponsors, e-Prayog provided one Aurum v1.1 board free of cost to each participant from academic institution. This became one of the major attractions of the workshop. IEEE Signal Processing Chapter, Pune Section also joined as Technical Sponsor to the workshop by providing seed money of Rs. 10000.00 (Rupees Ten Thousand only). This gave us a helping hand for boosting the workshop activities in initial phase.

A wide publicity was given to the workshop by sending over 300 hard copies of brochures and thousands of emails to many engineering colleges and industries all over the country. The workshop received overwhelming response and the registration was full well ahead of the targeted deadline. The total participants registered to the workshop were 53, which included 18 faculty members from ISTE category, 16 faculty members from non-ISTE category, 14 from student category and 5 from industry category. Amongst the participants, there were 3 Doctorate personnel. The participants joined from various parts of Maharashtra like Mumbai, Solapur, Sangli, Satara and Ratnagiri. The workshop proved to be a common platform for the participants

with different age groups and educational background to share their interest to work on embedded system design.

Many esteemed resource persons from various reputed institutes and industries were contacted for delivering expert lectures with hand-on sessions or demonstrations in the workshop. About 15 resource persons accepted the invitation and held their sessions during five days of the workshop. The resource persons were appreciated by the participants for their punctuality and expertise in their domain.



**Inauguration Function**

The inauguration function was held on 18<sup>th</sup> June 2012 at 10am sharp and was graced by the presence by dignitaries like Dr. D. S. Bormane, Chairman, BoS (Electronics), University of Pune, who was the Chief Guest of the event. Mrs. Madhumita Date, Project Manager, e-Prayog, IIT Mumbai and Mr. Ajit Bapat, Branch Manager, Microchip, Pune were the Guests of Honor.

Principal Dr. P T Kulkarni, and Vice-Principal Prof. G. P. Potdar

along with Dr. Y. Ravinder, Head of Electronics and Telecommunication department, felicitated the guests and extended their best wishes to the participants. They also appreciated the arrangements done for the accomplishment of the workshop. HOD, Dr. Y. Ravinder, continuously supported and motivated the organizing team. He looked into each and every detail necessary for making the workshop a successful endeavor. The coordinator Mrs. Sushma Shelke explained the motivation behind organizing the workshop on 'Embedded System Design using PIC Microcontrollers'. Coordinator, Mr. Shridhar Dudam mentioned all those who were involved in organizing the workshop.

The inauguration function was followed by the expert talk on 'PIC Roadmap' by Mr. Ajit Bapat and on 'e-Prayog' by Mrs. Madhumita Date. On the same day, Prof. D. N. Sonawane, COEP delivered an expert lecture on 'PIC18 architecture' and 'Embedded C'. On the second day, hand-on sessions were conducted by Mrs. Madhumita Date, Mr. Debapratim Ghosh and Mr. Ashwin Radhakrishnan on 'System Design using Aurum v1.1'. On the third day, Ms. Sushma D. Shelke, PICT, Ms. Mousami P. Turuk, PICT, and Mr. Shridhar S. Dudam, PICT delivered an expert talk on I2C Protocol, SPI Protocol and Proteus VSM respectively. On the same day, Mr. Ritesh Kulkarni, Microchip, Pune and Mr. Rajesh Bhalerao, Honeywell, Pune covered MiWi Protocol and CAN Protocol respectively, in their expert talk. On the fourth day, Mr. Shashank Gokhale, Crystalline Infrotech, covered Ethernet Solution: TCP-IP in the morning session. While hand-on

session on 'USB Application Development' was conducted in the afternoon session by Mr. Avath and his team, Campus Component, Pune. On the fifth day, Mr. S. Vengurlekar, Microchip, delivered an expert lecture on 'Interfacing Graphic LCD' followed by 'RTOS' by Mr. Suresh Joshi, Embedded System Design House, Mumbai.

The valedictory function was organized on 22<sup>nd</sup> June 2012 at 3.45 pm. The function was graced by the Chief Guest, Mr. Suresh Joshi, Director, Embedded System Design House, Mumbai and Guest of Honor, Prof. Mandar Khurjekar, VIIT, Pune. Prof. Mandar Khurjekar attended the ceremony as a representative of IEEE Signal Processing Society Chapter, Pune Section. Chief Guest, Mr. Suresh Joshi congratulated the department for the organization of a workshop, which is one of its own kind.



Valedictory Function

Prof. G. P. Potdar thanked the participants for making it successful. The coordinator of the workshop, Mr. Shridhar Dudam summarized the event and pleaded the participants to implement the knowledge they gained. Finally the coordinator, Mrs. Sushma Shelke expressed gratitude towards all those who were responsible towards making the workshop successful.

Few representatives of the participants expressed their feedback during valedictory function which indicated their satisfaction about the workshop syllabus, resource persons, hand-on sessions, venue, catering arrangements etc. The participants were very happy on receiving the Aurum board which would certainly help them to keep their work on embedded system development in progress. They also expressed their wish to attend workshop in PICT on related topic in near future.

The participants were given ample time to experiment by providing the laboratories and other facilities till 8 pm during the workshop. The hand-on sessions needed various peripheral boards for embedded system design. The peripheral boards worth Rs. 75,000.00 (Rupees Seventy five thousand only) were given on loan basis during the workshop by Logic Power, Pune, Campus Component Pune and Modern College of Arts, Science and Commerce, Pune.

Some noteworthy features of the workshop:

- ISTE approved workshop held after a long duration in PICT
- Technical sponsorship by reputed organizations like Microchip, IIT and IEEE
- Sponsorship from non-approved vendors

- Enrollment to the workshop by Industry personnel
- 40% of the workshop duration devoted to hands-on sessions
- Industry-institute collaboration by various means like technical sponsorship, financial sponsorship, support for hands-on session by borrowing the necessary equipments
- Resource persons form reputed Industries and institutions like IIT and COEP
- Registration full well before the targeted deadline
- Microchip certification and free PIC development board to all the participants



Group Photo

[BACK TO TOP](#)

## **8) MD Strategy and Plan 2012**

IEEE Pune Section, Membership Development, Strategy and Plan 2012

Prepared by: Prof. G.S. Mani

Chair, MD

Pune Section

[gsmanihome@yahoo.com](mailto:gsmanihome@yahoo.com)

## Topics:

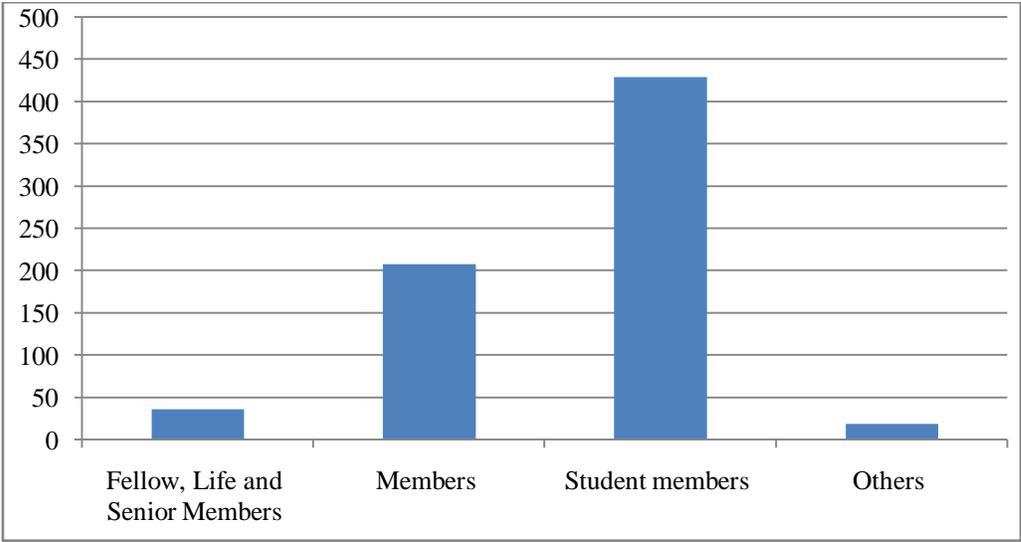
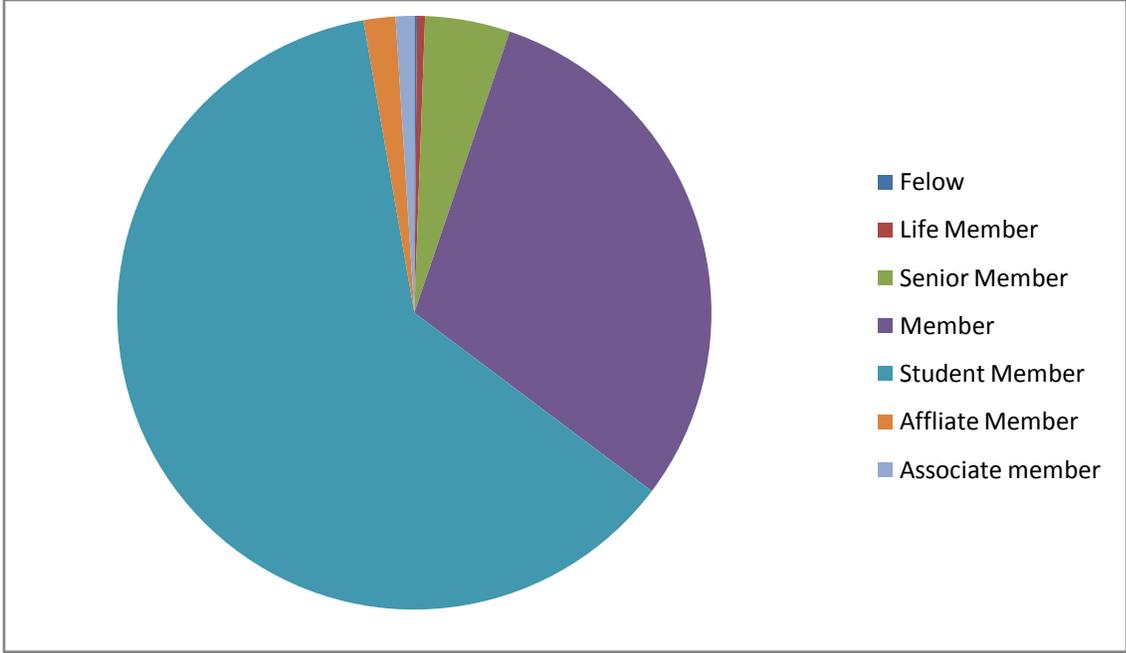
1. IEEE MD Strategy –Pune Section
2. Section Situation
3. Section MD Activities – May 2012
4. Section MD Plan – June to Dec 2012
5. Summary

### 1. IEEE MD Strategy –Pune Section :

- Holding workshops  
---Introducing IEEE to attract new members
- Interactive Sessions  
---for retention of student members
- Distinguished Lectures  
--- Arranging talks by distinguished personalities for retention of senior members

### 2. Section Situation:

<b>Membership</b>	<b>Numbers</b>
Fellows	01
Life members	03
Senior members	32
Members	208
Student members	429
Affiliate members	12
Associate members	07
Total	692



Fellow, Life and Senior Members	36
Members	208
Student members	429
Others	19

### 3. Section MD Activities –

May 2012:

- IEEE Workshop held at Infosys, Pune
  - Date :11, May 2012
  - Objective : to raise the awareness level about IEEE among professionals at Infosys.
  - Attended by about 25 professionals from the organization
  
- Interactive Session
  - Date :14, May 2012
  - Interactive session with Prof. Pierre Moulin  
Fellow, IEEE and  
Editor of a number of IEEE Transactions
  - Useful discussion on a number of issues with senior members of Pune section
  
- World Telecom day Function
  - Date :17, May 2012
  - Theme : Women and girls in ICT
  - Felicitated major woman contributors to ICT
  - Joint session with Institution of Engineers(India)
  - Attended by about 100 persons from different walks of life

### 4. Section MD Plan – June to Dec 2012:

June-Aug 2012

- Drive towards Awareness and Recruitment

IEEE Workshops/ Interactive Sessions

- 2 Academic Institutions
- 2 Industrial Organisations

Technical Lectures

- Based on visiting Dignitaries

Sep-Dec 2012

- Drive towards Retention and Renewal  
IEEE Workshops/ Interactive Sessions
  - 2 Academic Institutions
  - 2 Industrial Organisations
- Contacts with existing members
  - Reminders for renewal

#### 5. Summary:

- Established in June 2010, the young Pune section has 692 members
- The MD strategy of Pune section includes holding workshops, Interactive sessions and arranging lectures by distinguished personalities
- The strategy aims at Awareness, Recruitment, and Retention

[BACK TO TOP](#)

## **9) Notifications**

### **❖ Application invited for hosting Student Awareness Contest 2012 IEEE Pune Section**

Dear IEEE Branch Counselors,

Seasons Greetings....!

As all of you are aware that every year IEEE Pune Section organizes "Creating Awareness Students" activity. It is organised by IEEE Pune Section along with a IEEE Student Branch. Every year we try to give the opportunity to new IEEE Student branch. Last year it was organised by IEEE Student Branch of VIIT.

For hosting Creating Awareness Activity for year 2012, IEEE Pune Section is inviting applications from the IEEE Student branches. All the financial help required for this activity will be provided by the IEEE Pune section. I am attaching last years poster for your reference. This will be a good activity for an branch to increase rapport with the students as well as other branches.

Tentative Schedule for the activity is as below :

1. Registration of participating Groups with IEEE Students Branch Counselor - 30 July 2012
2. Communication from Branch Counselor/Staff In charge regarding Registration/of Groups to the Convener of the program - 10 Aug 2012
3. Presentations in Schools - July - Aug 2012
4. College/Institute level Contest for selection of Two Best Groups - 1 - 10 Sept 2012
5. Submission of information regarding two groups selected at College/Institute level Contest to the Convener, along with feedback forms and reports of all the participating groups - 17 Sept 2012
5. Final Contest at Host college - 28 Sept 2012

Also kindly submit a plan of your branch regarding what activities you would like to conduct / host for this academic year. This is to ensure that there is no overlap and these events are staggered properly. Also all Branch councilors should report their officers on the website (names – contact details- email and phone) this information will be updated on Pune Section website (<http://ieeepunesection.org/student-branches/>).

We shall organize a meeting of all the branch counselors and IEEE Pune Section officials very soon.

Prof S V Shelar

Student Activity Coordinator

IEEE Pune Section

9422088840

- ❖ Proposal to organize the event “3D of Research (methodology, application, and patent)” by Dr. Mrs. Kalyani Joshi (WIE affinity Group Chair) has been accepted by IEEE Education Activity Council and awarded a funding support

- ❖ Upcoming Distinguished Lecturer (DL) visit to Pune- DrFalko Dressler, IEEE ComSoc DL from 6th to 8th August 2012

1.Date :-6th August, 2012

Time :- 2.30pm to 4pm

Venue:- VIT College of Engineering, Sharad Arena, Pune

Topic: Bio-inspired and Nano-scale Communication and Networking

Contact: Prof. Bhise, +91 98 50 24 56 18; [suhas.bhise@vit.edu](mailto:suhas.bhise@vit.edu)

2. Date:- 7th August, 2012

Time: 3pm to 4.30pm

Venue:- Infosys, Auditorium, Phase 2, Hinjewadi (ECC CR8)

Topic: Protocol Engineering for Vehicular Communication

Kindly confirm your participation to :[nitin\\_mahajan@infosys.com](mailto:nitin_mahajan@infosys.com)

Mobile: +91 91 58 88 61 87

- ❖ Please note the IEEE Pune section's new website address: <http://ieeepunesection.org/>

[BACK TO TOP](#)