IEEE The Institute of Electrical and Electronics Engineers. Inc

Chairman's Message

Dear Members

A year has passed since the Global event of IEEE 125th Anniversary was celebrated in India at The Lalit Ashok, Bangalore. Many events have taken place in last one year. Monsoon has been good this year after an initial setback. The economy is poised for a growth after the turmoil of last few years in the banking and financial institutions all over the world.

At the June IEEE board Meeting Series, the *IEEE Board of Directors* approved that to support IEEE's strategy, *an office is scheduled to open in Bangalore, India in late September 2010.*

The IEEE Member and Geographic Activities (MGA) Board approved **the elevation of the IEEE Pune Subsection to IEEE Pune Section** in Region 10 and **formation of Malabar Subsection of the Kerala Section.** *I would like to congratulate Pune Section and the Malabar Subsection on their formation and wish them a great future. I would also like to commend the initiative of Mumbai Section and Kerala Section in facilitating their formation.*

I would not have known about the above two decisions if I had not read the September R10 Newsletter.It is strange that India Council which is supposed to coordinate and propagate IEEE activities in India does not get communications from IEEE HQ on such matters. Even the local entities do not inform or discuss with India Council. I am confused about the role and objectives of India Council in this context.

The INDICON 2010 is progressing well and received overwhelming response of 400 plus submissions on the submission closing date. I request all sections and members to extend cooperation to Prof. Kalyan K Mallik, Calcutta Section Chair.

IEEE Students' Branch of Fr. Conceicao Rodrigues College of Engineering is working round the clock to organize and conduct All India Student Congress 2010, on behalf of IEEE India Council, at Fr. Agnel Ashram, Bandstand, Bandra West, Mumbai-400050, Maharashtra, India on September 24,25 and 26 2010. I appeal all sections to support them with maximum participation of students from the branches under their jurisdiction.

University of Hyderabad has been selected as a recipient of the **2010 Supporting Friend of IEEE Member and Geographic Activities Award** for outstanding and continued support of the IEEE Hyderabad Section by providing significant contributions to Section meetings, encouraging faculty to serve as IEEE volunteers, and hosting both TENCON 2008 and the Workshop on Cloud Computing 2009. **IEEE Communications Society (COMSOC) Calcutta Chapter** is one among the four COMSOC chapters which has been selected as a **winner** for this year's **Communications Society Chapter Achievement Award (CAA)** by the COMSOC HQ. IEEE ComSoc Calcutta Chapter won the CAA on the earlier two occasions also, ie. in **2005 and 2008.** *On behalf of IEEE India Council and the sections, it is my privilege to congratulate University of Hyderabad, Hyderbad Section and the IEEE Communications Society (COMSOC) Calcutta Chapter on receiving the awards.*

IEEE Sections Congress 2011 will be held 19-22 August 2011, in San Francisco, California, USA, at the San Francisco Marriott Marquis. All Section Chairs and India Council Chair will represent from India. Many initiatives are result of deliberation at this meet. For example, the $ 50 e-Membership for Developing Nations is now available from this year. Therefore, it is important that we do some brain storming to generate useful new ideas, consolidate them and present at the Sections Congress.

With warm regards

Kasi Rajgopal
kasi.rajgopal@ieee.org

Message from India Council Secretary

Dear Members,

Good news is that our Pune Sub-section has been approved by MGA and got elevated as a full fledged section while in Kerala Section a new Sub-section by name Malabar has also been approved. Congratulations to both the new Indian Section/Sub-section volunteers whose dreams have come true for making IEEE more stronger in India. Let us wish them an eventful years ahead with full of IEEE activities.

As informed earlier, the E-membership of IEEE has been enabled for all Indians which now cost only US $ 50 for the year 2011. For details please click on to the membership portal of IEEE and refer to the E-membership details. Further, the rupee payment for all Indian students also has been extended for another year by the IEEE HQ. I request all the members including students to avail the new facilities provided by IEEE HQ to join/renew for the year 2011.

It is also understood that the IEEE India Office is getting inaugurated during the last week of October, 2010. Let us await further details from HQ.

Friends, you may be aware that the NDLP programme which has a special grant from IEEE foundation is going slow in this year. I request all Sections/Sub-sections, Society Chapters and Student Branches to avail such a useful and good NDLP facility which has been provided by our predecessors to enable the right technology reach all the needy people including the rural areas. Under NDLP, all costs with respect to the speaker are borne by the India Council. Please refer NDLP portal in the Indian Counsel Website for more details and make use of such a great oppurtunity.

With all Best Wishes.

(Ramakrishna Kappagantu)
Secretary, India Council
Email: kramakrishna@ieee.org

EDITOR'S MESSAGE

Dear Members,

Please do write on technical/non-technical topics of interest of IEEE members. I have been telling this since beginning of my tenure as editor and I am thankful to our senior members like Prof S Sadagopan, Prof Kannan Moudgalya and Mr P G Poonacha, who responded with very good articles, but I was expecting that our student members would take lead and come up with their creative writing. So far not a single contribution came up from our strong force of 18000+ student members. I only hope that they are atleast reading newsletter regularly. Never mind, I am again requesting all the members to contribute to newsletter in whatever form, be it reporting of event at their section/branch, article or any other useful information which they want to share with IEEE fraternity in India.

Hitesh Mehta
Editor

Best Regards

Hitesh Mehta
Editor
hmehta@ieee.org

That's IT in June 2010

Prof. S. Sadagopan

In the **general developments,**

- Hyderabad hosted the International Congress of the **International Mathematical Union** (IMU) during Aug 12-19, 2010, the first time in India; **Fields Medal** (considered the Math Nobel and awarded every four years only to young mathematicians who are not over 40 years age on January 1 of the year of the award) was announced on the Indian soil; the winners of this year were Elon Lindenstrauss, of Hebrew University of Jerusalem, Ngô Bảo Châu, Paris-Sud 11 University and Institute for Advanced Study, Stanislav Smirnov of University of Geneva and Cédric Villani of École Normale Supérieure de Lyon and Institut Henri Poincaré

- Bill Gates and Warren buffet led effort leads to the "super rich" in the world pledging more than $ 150 billion in aid for the humanity on August 4, 2010

- The last of the US combat troops leave Iraq on August 18, 2010

- **Vedanta** announces acquisition of 60% stake in **Cairn India** for $ 9.6 billion on August 16, 2010; loses its ongoing project clearance from environment ministry! In the **products** arena,

- **Tejas Networks** celebrated its 10th anniversary on August 13, 2010 by launching 3G / 4G networking gear

- **Acer** and **RCOM** (Reliance Communications) launch a bundled Netbook offer (Acer Aspire One laptop and Reliance wireless broadband) on August 12, 2010 for Rs 19,499

- **Wipro** launches rechargeable LED lanterns in India with life of up to 30,000 hours in August 2010 for the Indian rural market dominated by petromax and kerosene lanterns

In the **market-place,**

- **Intel** (microprocessor giant) buys **McAfee** (security leader) for a whopping $ 7.8 billion on August 19, 2010 suggesting consolidation not only within hardware and software majors but across hardware and software companies as well

- **MasterCard** (No 2 payment network in the world) buys British e-commerce vendor **Datacash** for $ 520 million

- **Google** acquires social apps start-up **Slide.com** for $ 228 million on August 6, 2010; buys **Like.com** (e-commerce platform with image recognition for jewelry) on August 20, 2010 for $ 100 million

- **Yahoo** and **Microsoft** gaining search market share (28 to 29%) in July while **Google** loses marginally (66% to 62%) (COMSCORE)

- **Dell** becomes No 1 PC vendor in India (overtaking **HP**) in April – June 2010

- **Bank of Rajasthan** merges into **ICICI Bank** on August 16, 2010

The **Indian IT Companies** continued to do well

- **Cognizant** (one of the big six Indian IT services major) touches quarterly top line figure (sales revenue) of more than $ 1 billion for the first time in April - June 2010 (a 22% increase)

- **TCS** starts its 5th delivery center in China in Shenzhen (Beijing, Shanghai, Hangzhou and Tianjin being the other four centers)

- **ITC (India Tobacco)** turned 100 on August 23, 2010

MNC Companies in India continue to grow their India operations

- **IBM** has 1,55,000 professionals in India; next only to TCS at 1,64,000, and higher than Infosys (1,15,00) and Wipro (1,13,000); **IBM India Lab** to lead $ 100 million mobile project

- **Texas Instruments** completes 25 years in Bangalore in August 2010 (the first MNC to start operations in Bangalore that kicked off the Indian IT story)

- **GM Research** in Bangalore to hire 500 more professionals

In **telecom**

- 3G networks are all set to roll out starting September 1, 2010

In the **Education & Research** front

* Madhavan Menon panel appointed to look into the autonomy of IIT's and IIM's

In the **people** front

* Amit Chatterjee to take over as Head of MS Development Center in Hyderabad from Srini Koppulu in September 2010
* Sam Pitroda heads the National Innovation Panel
* N Rangachary the first Chairman of IRDA (Insurance Regulator), is the new chief of CSDL (Central Depository Services Limited) effective August 2010
* **MIT Technology Review** names 3 Indians - Rikin Gandhi, Ranveer Chandra and Indrani Mehdi - in **TR35 list of 2010** (young innovators under 35 years old)

On the **infrastructure** fron

* Port capacity in India touches 1 billion tons in August 2010 (FICCI)

Some **interesting numbers**

* PC density in urban India rises to 38% in the first quarter of 2010; PC sales touch 3.3 million in April June 2010 (**MAIT**)
* India's Forex reserves on August 31, 2010 stood at $ 289 billon (**Reserve Bank of India**)
* Sensex (Bombay Stock Exchange index) rose to 18,038 by August end (**MoneyControl**)
* 16.92 million mobile subscribers were added to the Indian telecom network in July 2010 taking the total to 652 million mobile subscribers and 688 overall subscribers (**TRAI** Press Release of September 7, 2010)

Dear Section Chairs,

Proposals are invited from section chairs to organize TENCON 2013 and may be sent to Dr. Marzuki Khalid, IEEE R10 Conference Coordinator. Deadline will be 30th of September, 2010.

Your proposal should provide information on the following:

(1) Venue of Conference, City, etc

(2) Proposed Dates

(3) Proposed Theme, Focus and Scope of Conference

(4) Info on Hotel such as Hotel rates, star-rating, etc.

(5) Proposed Fees (Member, Non-member, Student member, Student Non-member)

(6) Accessibility to the City by Air

(7) Preliminary Budget

(8) Other relevant information (photos of city and venue, if possible) -

Attractions of City

Meaningful Technology Development: Grandma's Version

By P.G. Poonacha
poonacha.pg@gmail.com

Introduction

"Did teacher like your essay on impact of engineering on Indian society?" Grandma asked Ram one evening.

"That was cool grandma. I got ten on ten and teacher liked my essay a lot. I did not rite anything that you said! I wrote that engineering impact on Indian society is huge and very positive in terms of the number of engineers, number of jobs, number of tuition schools, number of engineering colleges and all the big companies like Infosys, Wipro, TCS and bigger companies like Tata, Birla, Reliance, Airtel etc. and the biggest company our government with all public sector companies and R&D labs. At the end I wrote that there are some bad effects also such as pollution, health problems due to increased radiation levels and emission levels etc... Teacher selected my essay as the best essay of the class. Thanks grandma."

"Why did not you write at least a few things from what I said? Grandma was feeling sad. "Grandma, you had told me once that when wind blows too fast it is better to bend our head and let the wind pass than face it and fall down. I know what the teacher wants.

Why unnecessarily make her think and get into trouble?" Ram knew what was going on in Grandma's mind.

"You told me that we will talk about what can be done to correct the system. I am interested in it. I told my friend about all that you told me about impact of engineering on society. He also liked it and wants to meet you one day." Ram wanted to make randma feel better.

Grandma's face brightened up. "Are you really serious or are you simply trying to waste your time by trying to please me?"

Ram's mother came into the room and said. "Ram you scored very badly in Physics test last week. You got only 99. Go now and study well and next time I want better marks" "Promise mama. Next week I will try it. Give me sometime to talk to Grandma about some very interesting things she wants to tell me" Ram begged.

"Just one hour and after that Physics" Mother left the room. Grandma was smiling. "Ram, why did you lose one mark?" "Grandma, I got confused. Could not memorize well and associate correctly an invention with the scientist's name. Sorry Grandma. Now tell me the best secret: How to correct the system and live happily?"

A Difficult Problem

Grandma knew she was getting into trouble. Ram will not give up. She tried the famous old trick used by some teachers. "Ram, that is an interesting question. Shall we talk about

some other topic today and take this question later?" "No Grandma. I want to hear your answer to this question." Ram knew that Grandma wanted to buy time or escape to victory and start watching Discovery channel or National Geographic channel to which she was addicted. Ram used to watch Discovery channel just because his mother did not like him to watch Cartoon channels or Movie channels.

Business should not drive Science and Technology Development
"Ram, what I feel is that we should not do research and develop technology for making money. Money should not drive research. Today all R&D labs and all the brilliant scientists and engineers are under the mercy of businessmen who want to make more and more money.

We need more and more fundamental research to understand laws of the universe for creation and destruction and to understand harmony relationships that are essential for a better life at all levels. Let me explain.

All of us know that we are a part of the universe where lot of things keep happening and lot of creation and destruction takes place at all levels, namely, at giga, mega, micro and nano scales. Even in the plant and animal kingdom there are a large number of inbuilt mechanisms by which some kind of harmony is established. This

needs to be understood well before we can add anything more to the system.

Essentially, we need more and more research to understand the real laws of nature than simple laws which can help us build interesting gadgets to exploit the nature to our "so called" advantage with less or very little understanding of the consequences.

This can be done by further examination and serious study of the nature to understand how creation and destruction happens in nature and with what purpose. If this is understood well we may be able to add value by becoming constructive creators.

Otherwise, we may create something just for fun and show that we are capable which may violate natural laws of creation and destruction. This may lead to imbalance at many levels and all its consequences."

"Grandma, what will happen to all the engineers and doctors and the huge industry which pretends to help mankind lead a better and happy life? Are you saying that all this is not required?"

Understand Natural Laws for Creation and Destruction

"No. We must encourage research in all areas with the objective of understanding and to discover tools which can help us maintain natural balance and harmony and improve

quality of human life and society. It is not at all necessary to give half understood truths to business man to make more money and create imbalance in the nature and destroy the harmony. We have plenty of such examples.

"Since we have turned out to be the most powerful species on Earth who are capable of creating interesting gadgets, including human like robots in the near future, we need to step back a little bit and do research on the purpose of creation first.

There must be more conferences where people must openly discuss impact of our research on society and nature in real terms than just to say it is all great and wonderful.

Due to this ignorance or arrogance we have created so many things whose impact on natural balance and harmony is already felt or not known well today. They will show up some day due to excessive usage of our creations. When such problems show up we once again do damage control by starting research programs to reduce the effect of such problems. I don't think this is the right vision for Science and Technology. Let me summarize this vision.

Current vision statement for Science and Technology

Scientists and Technologists, due to business requirements, create solutions without knowing their correct role in adding value to natural harmony of nature and in case any problems develop later they use science and technology to solve the resulting problems and create more solutions till new problems come up. This endless and meaningless game continues and may damage natural harmony to such an extent that we destroy everything.

"Then how will business man make more money?" Ram wanted to show that he was listening.

"Look Ram, business man will always make money with or without your technology driven solutions. They will sell everything for which there are buyers and make money.

Don't worry about them or don't get attracted by the money they can give you to create solutions which can create imbalance in nature. We are a part of the nature and we must understand and preserve harmony relationships. There is no point in adopting a tiger from the zoo and feel great."

"Grandma, I can understand. Don't know if this is the right answer which raises too many more questions. How do we find laws of harmony in nature? What should not be done and what should be done?"

"Yes Ram. There is no point pretending that we know everything or we can do everything. We must understand the essential problems and see if we can do something.

This is not easy. However, if we don't get attracted by money and business which drives such activity I am sure there will much better understanding and we can expect real good solutions which will not destroy natural

harmony and laws of nature. That is a good vision for Science and Technology."

Money Drives Everything Today

"Thanks Grandma. But who will support such research activity? In my class there are some students who are ready to pay me money if I do their homework. Money drives everything Grandma. I will think more about it. Next week if my friend wants to come and listen to you, will you ask my mother to make some nice dosas for us. If I ask her she says she is always busy. She does not give money to go out with my friends and enjoy it in the Ready to eat dosa shop also. Good night and let God bless me." "May be we should have universities where bright people work on understanding nature with the purpose of creating useful solutions which help us evolve to the next level by preserving essential qualities of nature. We should not demand solutions every day from such people. We should let them discover the essential laws which can help all of us in the real sense. Objective of such universities will be to investigate, understand and evolve

rather than investigate and control immediately without much understanding as we see in most of the universities. Would you like to join such a university?" "No Grandma. I want to buy so many things with money. So I want money for which I will work hard and you have told me that I can't earn money in any illegal or harmful way. But some of my friends in school are fine with any way to make money. Some want to be terrorists and some want to join the underworld. Hope their parents will advice them well soon. Love you Grandma. But who will fund such universities? Good night Grandma. Mama will come and chase me out of your room in another minute."

"Good night Ram. Hope our society wakes up to the real need before it is too late. As I had told you, corruption is a mutually beneficial scheme to violate and benefit from laws

of the land or society. Violating nature's laws, which are not known, for business benefits is crime and should be avoided if it is possible. God bless you."

IEEE COMMUNICATIONS SOCIETY   Calcutta Chapter

Chapter Achievement Award (CAA)

for the Year 2010

IEEE Communications Society (COMSOC) Calcutta Chapter from the Asia Pacific (AP) Region is one among the four COMSOC chapters which has been selected as a **winner** for this year's **Communications Society Chapter Achievement Award (CAA)** by the COMSOC HQ. The other three chapters are: EMEA – Russia Siberia (Tomsk) Chapter, LA – Colombia Chapter, NA – Ottawa – Bin Hu. IEEE will soon make up Plaque and arrange for the honorarium of (USD 1000) for each of the chapters which won the CAA. Further, one among the said four Chapters will be selected "Chapter-ofthe- Year" for 2010 and this announcement is forthcoming. That Chapter Chair or representative will have expenses paid to attend the IEEE GLOBECOM Awards Luncheon in Miami, Florida, USA and be honored during the Ceremony.

It may be noted that ComSoc Calcutta Chapter had won the CAA in the year 2005 and 2008 also. Further, the ComSoc Calcutta Chapter had won the **Chapter of the Year (CoY) Award** in 2008.

Reported By:

Dr. Swarup Mandal (swarup_m@ieee.org)

Chair, IEEE ComSoc Calcutta Chapter

P. Venkateswaran (pvwn@ieee.org)

Secretary, IEEE ComSoc Calcutta Chapter

2011 e-Membership
Special Announcement

IEEE is pleased to offer a new electronic membership (e-Membership) option for the 2011 membership year, which kicked off on 16 August.

To help make IEEE membership more affordable to more potential members, the new e-Membership option will e offered to both new and renewing, higher-grade members who live in one of 153 countries where the per capita gross domestic product (GDP) is under US$15,000 (based on data provided by the United Nations).

What is e-Membershipå It is a paperless membership option with reduced annual dues – just US$50 (plus regional assessments) as compared to the traditional membership option which costs US$136 for 2011. When a new or renewing higher-grade member indicates they reside in one of the eligible countries, they will be given the option to choose the e-Membership option with reduced dues.

Those who sign up as e-members will receive electronic versions of their membership card and acknowledgement pack, as well as electronic delivery of publications, including *Spectrum*, *Potentials,* and *The Institute*. All future renewal invoices for e-members will be sent electronically too.

Students and graduate students are not eligible for e-Membership. Also, the Special Circumstance discount (which offers a 50 percent reduction in IEEE dues to individuals who are unemployed or meet a minimum income provision) cannot be claimed when a member opts for e-Membership.

MGA will be kicking off recruitment campaigns in September to prospective members and former members, which will include e-mail campaigns and online advertising in the targeted countries.

A special outreach to renewing members in eligible countries will also go out in September, to alert them of this new option and how to renew. As of 30 June, there were 33,887 higher-grade members on file who would be eligible to take the e-Membership option when they renew for 2011.

Learn more about e-Membership. The e-Membership Web presence is a resource for new and current members, volunteers, and staff.

Volunteers also have access to a training presentation on e-Membership, along with a one-page product sheet that can be printed on demand for recruiting events, on the Membership Development Web page.

Members with questions can be directed to www.ieee.org/emember or to the IEEE Contact Center. Volunteers can e-mail Elyn Perez in MGA with questions and comments.

IEEE Member and Geographic Activities

MGA Vision - Ensure Quality Member Opportunities Through Continuous Engagement

MGA Mission - Inspire, Enable, Empower, and Engage Members of IEEE. For the purposes of…

å   Fulfilling the mission of IEEE

å   Enhancing the members' growth and development through their life cycle

å   Providing a professional home

IEEE: Advancing Technology for Humanity.

IEEE Member and Geographic Activities, August 2010

NEWS DIGEST

University of Hyderabad, in Hyderabad, India, has been selected as a recipient of the 2010 Supporting Friend of IEEE Member and Geographic Activities Award.

The citation is as follows:

For outstanding and continued support of the IEEE Hyderabad Section by providing significant contributions to Section meetings, encouraging faculty to serve as IEEE volunteers, and hosting both TENCON 2008 and the Workshop on Cloud Computing 2009.

Call for Nominations - 2010 R10 Outstanding Volunteer Award

The R10 Outstanding Volunteer Award aims to recognize those volunteers who have made outstanding contributions to a particular Region 10 Section.

For details of this nomination, please refer to the attached file "100820-Call for Nominations (2010 R10 Outstanding Volunteer Award).pdf".

Please complete the attached nomination form "100820-Nomination Form (20010 R10 Outstanding Volunteer Award).doc" and send it to Ms. Fanny Su, IEEE APO office at ieeeapo@pacific.net.sg.

The nomination deadline is 31 October 2010.

Should you need more information, please contact taka.minami@jp.fujitsu.com ,2009-2010 IEEE R10 Awards & Recognition Committee Chair

Call for Nomination for IEEE Region 10 Historical Achievement Award, Academia-Industry Partnership Award, MMI Award, and MIMI Award

R10 Industry Liaison Committee is seeking nominations for the following awards: 2010 Region 10 Historical Achievement Award, Academia-Industry Partnership Award, MMI Award, and MIMI Award. The deadlines for these nominations have been extended one month.

a)   2010 Region 10 Historical Achievement   The deadline for submission is at the end of October in 2010 (Deadline Extension!).

b)   2010 Region 10 Academia-Industry Partnership Award   The deadline for submission is at the end of September in 2010 (Deadline Extension!).

c)   2010 Region 10 MMI Award The deadline for submission is at the end of September in 2010 (Deadline Extension!).

d)   2010 Region 10 MIMI Award The deadline for submission is at the end of September in 2010 (Deadline Extension!).

Please see the webpage "http://ewh.ieee.org/reg/10/ILC/ILCMain.html" for the details. R10 Industry Liaison Committee encourages you to submit the nominations for these awards. After filling out the nomination forms, please send to: wangjf@mail.ncku.edu.tw.

Dr. Jhing-Fa Wang, Region 10 Industry Liaison Coordinator

IEEE Computer Society Chapter and Joint Chapter of EM and IAS Society, India Council along with ADIT Engineering College organizing an International Conference during Feb. 2011.

IICPE2010

INDIA INTERNATIONAL CONFERENCE ON POWER ELECTRONICS

January 28 - 30, 2011

Netaji Subhas Institute of Technology

New Delhi, India

http://www.ieee-pels.org/home/223-iicpe-2010-india-international-conference-on-power-electronics

URL: www.iicpe2010.org

Email: iicpe2010@gmail.com

4th India International Conference on Power Electronics 2010 (IICPE-2010)

categories: power, electronics, drives

When: Jan 28th, 2011 – Jan 30th, 2011, Where: New Delhi, India

Submission Deadline: August 15, 2010 Notification Due: Sept 1, 2010 Final Version Due: Oct 1, 2010

R10 PG Paper Contest Results

1st Place (USD350+Cert) "High speed electro-optic phase shifter based on a lateral P-G-N diode capacitor" Maoqing Xin (National University of Singapore)

2nd Place (USD300+Cert) "Design of Wideband Pattern Diversity Antenna for Mobile Communications" Biqun Wu (City University of Hong Kong)

3rd Place (USD200+Cert) "Classification of 3D MRI using Mixture Models via Column Sampling" Ashish Phophalia (Dhirubhai Ambani Institute of Information and

Communication Technology)*

R10 UG Paper Contest Results

1st Place (USD300+Cert) "New Solutions to EM Scattering by a Gyrotropic Sphere" Wee-Ling Ong (National University of Singapore)

2nd Place (USD200+Cert) "Stereo Computer Vision with Multiple Cameras" Tony KS Cheung (The Hong Kong University of Science and Technology)

*3rd Place (USD150+Cert) "Crystallite Size Effect on Voltage Tunable Giant Dielectric Permittivity of CuO" Aditya R. Kaskhedikar and Paritosh D. Peshwe (G.H.

Raisoni College of Engineering)*

Larry K. Wilson award 2010 Winner: *Arjun R Pillai (College of Engineering Chengannur, Kerala Section) *

A Special Mention and Certificate goes to: Balakrishnan V K (Vidya Academy of Science and Technology, Kerala Section)

Exemplary Student Branch of Region 10 ; 2010:

V.E.S. Inst. Technology (Bombay Section) The SB receives a certificate and a cash prize of US$ 250 (to be claimed from R10 SAC)

Outstanding Student Branch Certificate 2010: *1. Jamia Millia Islamia (Delhi Section)

2. The University of Auckland (NZ North Section)