

# GLOBAL Communications NEWSLETTER

October 2012

## *World Telecommunication and Information Society Day (WTISD), Pakistan*

*By Prof. B. S. Chowdhry, Chairman of the ComSoc Karachi Chapter, Pakistan*

Mehran University of Engineering & Technology (MUET), Pakistan in collaboration with IEEE Communications Society (ComSoc) Karachi Chapter organized World Telecommunication and Information Society Day (WTISD) on 17th May 2012 at Prof MD Makhdoom Hal, MUET Jamshoro, Karachi, Pakistan. Speaking on the occasion, Prof. Dr. B. S. Chowdhry, Chairman of the ComSoc Karachi chapter and Dean Faculty of Electrical, Electronics and Computer Engineering at MUET told that International Telecommunication Union (ITU) has set the purpose of WTISD to help raise awareness of the possibilities that the use of the internet and other information and communication technologies (ICT) can bring to societies and economies, as well as of ways to bridge the digital divide. He said that the theme of this year is set as "Women and Girls in ICT." He informed that 17th May marks the anniversary of the signing of the first International Telegraph Convention and the creation of the ITU.

Quoting the message of Dr. Hamadoun I. Touré, ITU Secretary-General, Vice Chancellor of MUET Prof. Dr. A. Q. K. Rajput informed that ICT plays a catalytic role in creating opportunities for people in every walk of life, especially for those among us who are vulnerable and disadvantaged, while providing the framework for long-term sustainable development. He said MUET has become a regional hub in ICT imparting undergraduate and postgraduate program in many areas of ICT. He further said, "it is high time that we pay particular attention to the special needs of women and girls, extending to them the benefits of ICTs so as to create a paradigm shift in opportunities offered now and in the future."

Madam Kulsoom Chandio, Member Provincial Assembly of Sindh and Chief Guest for the occasion expressed her contentment that MUET was celebrating world telecom day in unison with the ITU. She further said, "I must say that women are the foundation of our societies. They are the pillars of strength in every family and community. Women and girls are denied access to basic health care and education and to equal opportunities at work. This government has taken lot of efforts to avoid discrimination of women in economic, political and social decision."

Prof. Dr. Aftab A. Memon, Chairman of Department of Telecommunication Engineering in his speech highlighted the importance of Telecommunication engineering in knowledge based society. He also introduced the keynote speaker Dr. Faisal K. Shaikh who has recently returned from Germany to deliver a talk on "Internet of Smart Things."

Dr. Shaikh highlighted that the tremendous growth of Internet has started giving life to many applications and services which were not possible some time back. He said, "with the existence of new technologies a huge amount of informa-



*From left: Prof. Dr. Aftab A. Memon, Prof Dr. M. A. Uqaili, Madam Kulsoom Chandio, Prof. Dr. A. Q. K. Rajput, Prof. Dr. B. S. Chowdhry.*



*Dr. Faisal K. Shaikh delivering the keynote on Internet of Smart Things.*

tion is generated by non living things leading to the idea of "Internet of Smart Things (IoST). The key enablers for IoST," he continued, "are web technologies, RFID and wireless sensor networks, which provide pervasive and ubiquitous environment for network of objects."

Prof. Dr. M. A. Uqaili, Pro Vice Chancellor in his concluding remarks apprised about the ICT sector that can pave the way by providing avenues of advancement to professional women at the highest echelons of decision making and by encouraging young women to seek new careers within the sector.

On this occasion, certificates and shields were also distributed to girl students who received scholarship under US Fulbright and European Commission's Erasmus Mundus program.

# Distinguished Lecturer Tour of Xavier Fernando in South India

By Xavier Fernando, Ryerson University, Canada and Pradeep Balachandran,  
Secretary of the IEEE Comsoc Kerala Chapter, India

Prof. Xavier Fernando had a very successful IEEE COMSOC Distinguished Lecturer Tour in South India, during July 11 – 17, 2012, thanks to the support of Dr. Mehmet Ulema, Dr. Sabu, and Ms. Ewell Tan. He visited five different cities in three states giving seven lectures during this trip.

In Chennai, Tamil Nadu Prof. Subramanian, Secretary of COMSOC Chennai Chapter coordinated events. Prof Xavier visited the Madras Institute of Technology (MIT) campus of Anna University on July 11th where, Ms. Vaidehi Vijayakumar, Head of the IT Dept. and Dr. Srikanth were the hosts. Anna University is ranked only next to well-known IITs in Tamil Nadu. The lecture was on 'Communication Requirements for Smart Grid'. The talk covered an overview of the smart grid and layered architecture of and inter-operability requirements of the smart-grid communication networks. Integration of renewable, distributed energy sources to the core network was discussed in detail, highlighting India's huge solar and wind potential. The lecture was attended by over 50 students, professors and professionals. The audience were very keen on the smart grid technologies that would enable incorporating renewable sources to the grid as India is struggling to meet its demand despite the solar and wind potentials. Especially, there is a frustrating, rotating power cut in Tamil Nadu.

The next day, July 12th morning Prof. Fernando visited the Arupadai Veedu Institute of Technology in Kancheepuram District of Tamil Nadu. Dr. Vijendra Babu, Head of ECE department received Prof. Fernando introduced him to the students. The lecture was again on 'Communication Requirements for Smart Grid', which was very well received. There were over 100 audiences, mostly students.

There was another talk on the same day afternoon at Anna University, Guindy campus. The host was IEEE



*Audience of the talk in Kochi.*

Chennai Section Vice Chair Dr. Mohan. The topic was 'Radio over Fiber for Wireless Communications'. There were over 80 audiences. They showed great interest in the topic as number of them actively works in this area. There were many questions; one question was on the photonic generation of ultra wideband radio signals; another one the pros and cons of using A/D converters.

The next day, he visited the prestigious National Institute of Technology (NIT) at Calicut, Kerala. Prof. K. P. Mohandas, Chair, IEEE Malabar Subsection welcomed the speaker and Prof. Abraham T. Mathew introduced the speaker to the audience. The talk was again on Smart Grids. The specific case of prospects and possibilities of the use of smart grid technology for solving India's power crisis was highlighted. About 75 participants attended the lecture. Dr. Sameer, Secretary, IEEE Malabar subsection gave vote of thanks. Since NIT is a research intensive institution, there was very fruitful discussion afterwards. There was discussion on the low power conversion efficiencies of solar panels as a hurdle for widespread deployment.

It is worth mentioning that the talk at NIT Calicut about smart grid initiatives for solving India's power woes appeared in the Indian National Newspaper, The Hindu (<http://www.thehindu.com/todays-paper/tp-national/tp-kerala/article3644505.ece>). Ironically, the great black-out which affected over 600 million people hit India after few days.

The next day, July 14th, Dr. Fernando went to Cochin (Kochi), Kerala. Dr. Suresh Nair, Vice Chair, IEEE Kochi Subsection introduced the speaker. The talk was on 'Wireless Sensor Networks for Green Building', where he gave an overview of smart buildings, then discussed various wireless communication technologies for the realization of smart structures and made a comparative evaluation among the peer technologies such as Wi-Fi, Zig-Bee, Bluetooth, RFID, and EnOcean. Sub topics such as modern techniques for heating/cooling, Felt Air Temperature and powering the wireless sensors were also briefly discussed. Speaker also shared his research experience at the experimental Archetype Net-Zero House that is built in Toronto. There were 35 participants of whom 15 were from Industry and 20 from academia. The event

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*Lecture at Trivandrum.*



# Activities of IEEE ComSoc Xi'an Chapter in 2012

By Rong Sun and Bin Song, Xidian University, Xi'an, China

IEEE Xi'an ComSoc Chapter was founded on July 18, 2008. There are over 60 members in this Chapter according to the statistic record. In the past four years, the Chapter arranged more than 100 lectures by researchers over the world. In the former half year of 2012, there are 17 lectures and one workshop cosponsored by the Chapter. IEEE Fellow, Prof. A. J. Han Vinck presented his recent work named "Some Practical application of Error Control Coding" on April 1st, 2012. IEEE Fellow, Prof. Stephen S. Yau gave a lecture named "Development of Trustworthy Service-base Systems" on May, 2012. IEEE Fellow, Prof. LUO Zhiquan introduced his recent work named "Linear precoder optimization and base station selection for heterogeneous networks" on June, 2012. These lectures attracted the local researchers and promoted the idea exchange and cooperation.

Cosponsored by IEEE Xi'an ComSoc Chapter, Xidian University invited IEEE Fellow, ACM Fellow, and Professor Kang G. Shin from the University Michigan to attend the 5th Workshop of "National 111 Project" Base for Modern Wireless Information Network from April 13 to April 18.

On April 13 and April 16, Prof. Kang G. Shin gave two lectures named "E-MiLi—Energy-Minimize Idle Listening in Wireless Networks" and "Can Open WiFi Networks Be Lethal Weapons for Botnets?" respectively. Some young researchers from Xidian University also gave four lectures to introduce their recent work.

Prof. Kang G. Shin also attended the discussions of the issues on bandwidth guarantees in wireless networks, full/half duplex based resource allocations for statistical quality of service provisioning in wireless relay networks, distributed space-time coding for full duplex asynchronous cooperative communications, power and bandwidth assignment in femtocell



Prof. Kang G. Shin with local young researchers.

networks, and so on, in this workshop. These issues involve theoretical analysis and potential technology method, new scientific and research problems are inspired and proposed, which attracted the audiences' focus.

Over one hundred audiences including more than thirty IEEE members from Xidian University and other universities and institutes in Xi'an City attended the workshop, which gave an exchange platform for the researchers on broadband wireless communications systems, self-organized network, and information & network security. The researchers hoped that the workshop can be arranged annually and they showed their great thanks for Prof. Kang G. Shin's attendance and support.

## The Nets4Cars & Nets4Trains Workshop Series

By Rashid Mehmood, UK, Alexey Vinel, Finland and Marion Berbineau, France

The 4th Workshop on Communication Technologies for Vehicles (Nets4Cars & Nets4Trains) was held in Vilnius, Lithuania during 25th – 27th April 2012. It was co-located with the 2nd Baltic Conference on Future Internet Communications (BCFIC-2012), the meeting of COST Action IC0905 TERRA (Techno-Economic Regulatory framework for Radio spectrum Access for CR/SDR), and the meeting of COST Action IC0906 WiNeMO (Wireless Networking for Moving Objects). The joint event was supported by Vilnius Gediminas Technical University, Lithuania, IEEE Lithuania Section and the IET Wales South West Network.

The Nets4Cars workshop originated in 2009 in Saint-Petersburg, Russia and since then has been held annually in NewCastle, UK (2010), and German Aerospace Centre, Oberpfaffenhofen, Germany (2011). Its aim is to provide an international forum for academics and industry to discuss the latest technologies and research in the field of intra- and inter-vehicular communications systems, protocols and standards, mobility and traffic models, methodologies, and techniques, testing, applications and services. The term 'vehicles' is taken in its broad sense and it includes any moving object such as trains.

This year the Nets4Cars & Nets4Trains technical program comprised two tracks – the road track and the rail track – and included 15 carefully selected papers through a rigorous review process. Two of these papers were the invited papers,



Prof. Bernd Wolfinger from Hamburg University (Germany) is delivering the keynote "Research Challenges and Proposed Solutions to Improve Availability and Quality-of-Service in Future IPTV Systems" at the joint session of BCFIC, COST IC0905, COST IC0906, Nets4Cars & Nets4Trains.

one from Ericsson Germany. A panel on "Wireless Technologies in ITS: Opportunities and Challenges" was also organized. A number of significant contributions were made by over 50 authors in theory and practice of topics including

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## **DISTINGUISHED LECTURER**/continued from page 2

concluded with vote of thanks proposed by Mr. Shahim Baker, Secretary of IEEE Kochi Subsection.

Prof. Fernando then went to Thiruvananthapuram, the capital city of Kerala on the next day, 15th July. The lecture was held at the Centre for Development of Advanced Computing (C-DAC) and the topic was "Low Interference Wireless Communications for Biomedical Applications." Mr. Pradeep Balachandran, Secretary, ComSoc, Kerala chapter introduced the speaker. A broad spectrum of aspects ranging from basic principles of wireless sensors, corresponding control and command networks, protocols and standards, resource management and performance evaluation, all applied to the Bio-Medical Systems, formed the outline of the talk. The relative advantages of prospective technologies like '60 GHz' and 'Magnetic Coupling' over the peer ones like Zig-Bee and Bluetooth were discussed. Speaker highlighted the key requirements on wireless sensing for the real time monitoring of vital physiological parameters and described the need for a robust, reliable, and energy efficient wireless Body Area Networks (BAN). He also remarked on the power and size constraints of body area sensor networks and the need for bio-compatible energy harvesting designs. The event had a participation of about 30 people including engineering college faculty members and students. The feedback from the audience highlighted the trend of growing interest among the engineering community to pursue active research in the field of Bio-Medical engineering and allied fields. In the closing ceremony, a memento was presented to speaker by Mr. Koruthu P. Varughese, veteran biomedical engineer and Past-Chair of IEEE Kerala Section. Mr. Prem Krishnan,

Treasurer, COMSOC, Kerala Chapter, proposed the Vote of Thanks.

On the last leg of the tour, Prof. Fernando went to Bangalore, the IT capital of India. The Indian Institute of Science (IISC), the highest ranked institution in India is located in Bangalore. Prof. Srinivas of IISC warmly welcomed the speaker. The lecture on July 17th was on Radio over Fiber. About 70 people attended the lecture. The audience consisted of graduate students, professors and practicing engineers from nearby high tech companies, including a group of engineers from the highly reputed Tata Consultancy Service (TCS). There was lot of discussion after the lecture especially on various applications of ROF. Prof. Vinod Sharma, head of the ECE department attended the lecture and very impressed. His students who are working on femtocell systems found a unique possibility of combining ROF with femtocell systems which could perform better than the individual systems. The TCS engineers wanted to know how the ROF can be used for Smart Grid communications.

Overall, the DLT experience was wonderful. Each lecture was very satisfying to the speaker and the attendees, due to the positive response from the audience and fruitful discussion.

## **NETS4CARS & NETS4TRAINS**/continued from page 3

train to infrastructure communications, rail ITS, methods to enhance cellular connectivity on trains, methods for improved traffic flow and traveller information, vehicular information fusion, disaster management, cellular networking technologies for ITS, methods for enabling security policies in automotive, and security solutions for C2X networks.

The workshop proceedings for Nets4Cars & Nets4Trains in the past have been published either by IEEE or by Springer. This year proceedings were published as the Volume 7266 of the prestigious LNCS (Lecture Notes in Computer Science) series by Springer; you may read it online at <http://www.springerlink.com/content/978-3-642-29666-6>.

The next year event will be held in Lille, France, and will be supported by the regional IEEE Chapter. We are expecting the 2013 event to be much larger in number and scope and inviting you all to be part of it.

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[www.comsoc.org/gcn](http://www.comsoc.org/gcn)

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