IEICE Global Plaza

—Monthly community plaza in English for students, faculties and engineers—

Hot Topics

IEICE International Section Representatives Gave Speeches on "International R&D Trends in ICT" in 2014 IEICE General Conference

IEICE International Affairs Committee

As reported in the preceding issue of IEICE Global Plaza in IEICE Journal, Vol. 97, no. 5, the 2014 IEICE General Conference was successfully held with about 9,500 participants and 2,587 presentations in total 315 Sessions at Niigata University Ikarashi Campus on March 18-21, 2014. As one of Special Sessions planned by the General Conference Committee, the English Session TK-2 was organized by IEICE International Affairs Committee to introduce the Representatives of the present eleven IEICE International Sections to the participants and make their most updated situation, organization and activities understood by many interested participants, especially young researchers or students who would keep in touch with them through global academic activities.

Hereby, their speeches are summarized below. Since each of the Sections has been established and developed through different backgrounds from time to time after the initiative of IEICE Overseas Area Representative Program by the first four Sections covering Taipei, Singapore, Beijing and Bangkok, in 2003, their reports might not look uniform. However, you will be aware that all of the Representatives have made effort to evolve their organization and tried to collaborate with the other many IEICE members, Societies/Group, Technical Committees toward a multi-cultural academic society. Each article appears in inverse alphabetical order according to the Session. (*Edited by Prof. Kenzo Takahashi, IEICE-TFIPP*)

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IEICE Vietnam Section

Xuan-Tu Tran, Prof. Dr.,
VNU University of Engineering and Technology, Deputy Representative,
IEICE Vietnam Section

He introduced the historical background and objectives of the Section establishment, organization and current activities of the Section on behalf of Prof. Ngoc-Binh Nguyen, Rector of the university, the Representative of the Section.

The IEICE Vietnam Section was established in the early of 2013 as a result of the collaborations at both academic and industrial sectors between Vietnam and Japan. The Section quickly started its activities by a lecture meeting and the inauguration ceremony on March 15, 2013, sponsored by IEICE. After that, the Section has organized many activities such as seminars and meetings to build the strong links between experts coming from different universities/companies and promote the academic collaborations between them.

In particular, this year, the Section collaborated with the IEICE ICD, IEICE VLD committees and the universities in Vietnam and organized the 2013 IEICE International Conference on Integrated Circuits, Design, and Verification (ICDV 2013) held at Ho Chi Minh city on November 15-16, 2013 with more than 100 participants. Please see it at *http://www.ieice.org/eng/global_plaza/2013/61. html*. This Conference marked one of the meaningful events in Vietnam celebrating the mutual cooperation over the past 40 years between Vietnam and Japan. The Section has also supported for the other conferences organized in Vietnam such as RIVF 2013, KSE 2013 or collaborated with the Thailand-Japan Microwave (TJMW) to organize a workshop on microwave in Hanoi. In addition, the Section also took these opportunities to recruit more members for the IEICE and help members and the future potential members to complete their registration for the year of 2014.

In this talk, he referred to the activity plan of the Section for the 2014 fiscal year. He also gave the overview of the current ICT related academic activities, the research trend and human resource development of ICT based on the rapid evolution of ICT in Vietnam over the past ten years, and referred to the expectation of the Section to develop collaborations with communities of IEICE.

IEICE Taipei Section

Hoang-Yan Lin, Prof. Dr.,
National Taiwan University,
Deputy Representative,
IEICE Taipei Section

He introduced the organization and activities of the Section on behalf of Prof. Liang-Hung Lu of the university, the Representative of the Section.

This year, Taipei Section has co-sponsored the following two lectures with about 150 audiences.
(1) Lecture entitled "The charm of closed loop : the biomedical engineering realization in brain machine interface and deep brain stimulation" given by Prof. You-Yin Chen, at National Taiwan University on May 29, 2013.
(2) Lecture entitled "A reconfigurable low-power low-noise bio-potential sensing amplifier" given by Asst. Prof. Sheng-Yu Peng, at National Taiwan University on May 29, 2013.

During these activities, we encouraged the faculty and students to actively participate in IEICE events and to contribute papers as IEICE members. In addition, Prof. Hoang-Yan Lin was invited to serve the Section with the Representative, Prof. Liang-Hung Lu, as the Deputy Representative starting from 2013. His expertise is in the field of LCD display and he has strong connections with both Society of Information Display (SID) and IEICE. The Section is planning to initiate the close collaboration with Regional Sections in Japan in the near future.

IEICE Singapore Section

Arokiaswami Alphones, Prof. Dr.,
Nanyang Technological University,
Representative, IEICE Singapore Section

This year, the IEICE Singapore Section has made more drives and mainly to mobilize more members into IEICE folder. The section has been collaborating with local Universities and Research Institutes to get its roots into more members. It was planned and executed to have a seminar organized by the Section on Non-reciprocal Composite Right/Left-Handed transmission line (CRLH) metamaterials and their applications to Antennas. This was delivered by Prof Tetsuya Ueda of Kyoto Institute of Technology, Japan, at Nanyang Technological University, Singapore, on January 22, 2014. Many delegates from academia and industry joined the seminar, and it gave a good platform to share his experiences with all the researchers in Singapore. The due acknowledgement to IEICE was mentioned before his talk and also the IEICE logo was arranged to appear in all the events including publicity materials, Website and the proceedings of IEICE.

In the coming up year of 2014, the IEICE Singapore Section would like to invite two eminent researchers from Japan (one in microwave systems and another in communication technology) to share their experiences with Singapore researchers. They believe this will make the feeling of IEICE's presence in Singapore and motivate more budding engineers to come into IEICE and actively participate in coming years. Also it is planned to make the IEICE

Fig. 1 IEICE Sponsored Lecture given by Prof. Tetsuya Ueda

Fig. 2 Lecture participants with Prof. Tetsuya Ueda

membership drive to recruit new members and give a talk on the IEICE membership benefits, as well.

IEICE Shanghai Section

Jie Zhu, Prof. Dr.,
Shanghai Jiao Tong University,
Representative, IEICE Shanghai Section

He introduced the historical background and objectives of the Section establishment, organization and current activities of the Section on behalf of Prof. Wen Chen of Shanghai Jiao Tong University (SITJ), the Representative of the Section. The activities are summarized as follows.

The Lecture Meetings were held to make the importance of electronics, information and communication technologies understood by the participants, and to appeal them activities of IEICE, so that the number of IEICE members in the area of the Section would increase.

The first Lecture Meeting was entitled "Single-Carrier Frequency-domain Signal Processing for High Mobility Wireless" and the lecture was given by Prof. Dr. Fumiyuki Adachi, Tohoku University, Vice President of IEICE at SITJ on November 1, 2013. The Lecture Meeting was organized by the Section and 32 researchers, students and Section members joined the Meeting.

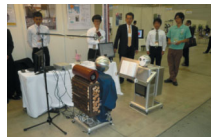Fig. 3 Organizers of IEICE Sponsored Lecture given by Prof. Tetsuya Ueda

Fig. 4 Demonstration of a book reading robot arranged by Prof. Seiichiro Kamata

His speech gave an overview of broadband wireless services in the near future. He referred to Cyclic prefix (CP)-inserted OFDM and single-carrier (SC) broadband signal transmissions which would take advantage of the channel frequency-selectivity to improve the transmission quality for broadband wireless services available even in a high speed train with severely doubly-selective channels, through the use of frequency-domain equalization (FDE). He referred to the frequency-domain filtered CP-SC signal waveform with an advantage of lower peak-to-average power ratio (PAPR) than CP-OFDM which would be advantageous in application to the transmit power limited wireless systems. He also referred to the training sequence (TS) with several advantages over CP, and the improvement of transmission performance degraded due to the frequency offset between transmitter and receiver, through the joint use of SC-FDE and spectrum combining. In his talk, the participants could learn the recent advances in SC frequency-domain signal processing and know the future perspective of high mobility wireless.

Another Lecture Meeting was planned and conducted by the Section Preparation Committee. This Committee was set up with 3 IEICE members including Chair, Vice Chair and many voluntary collaborators of the Section, in December, 2013, to discuss and manage the future action policy, planning and management of Lecture Meetings or similar events. The Lecture was entitled "Space-Filling Curve Applications to Image Processing" and it was given by Prof. Dr. Sei-ichiro Kamata, Waseda University at SITJ in December 2013. The number of participants including researchers, students and Section members reached 28. In this seminar, Hilbert's space-filling curve applications to image processing were reviewed, including a new fast algorithm for generating an N-dimensional Hilbert curve which would be the fastest one in the world so far. His several collaborations with Prof. Qunfei Zhao and Prof. Jie Zhu about book reading robot called 'Ninomiya-kun', and with Prof. Lizhuang Ma about medicine package recognition were introduced in the Lecture Meeting.

Furthermore, the Section organized a ceremony to speak words of praise to Prof. Ronghong Jin who contributed to the activation of the Section and the "Certificate of Appreciation of the Section Representative" was bestowed on him.

In the coming fiscal year, the Section will evolve the following events to make the importance of electronics, information and communication technologies understood widely by the Section members, related researchers and students.
（1）Lecture Meeting "Network Coding in Relay Networks", in May
（2）Technical Committee Meeting on Relay Networks co-sponsored by IEICE Technical Committee on Communications, in September
（3）Training Session on "Writing Course of Research Paper" co-sponsored by IEICE Engineering Sciences Society in October.

The representatives and voluntary cooperators of this Section will be reorganized to set up the "Section Committee of Shanghai Section" and innovate the Section and services to the members.

IEICE Korea, Information Section

Young Bok Choi, Prof. Dr.,
Tongmyong University, Representative,
IEICE Korea, Information Section

Regarding ICT R&D trend in Korea, it is remarkable that the number of smart phone subscribers is more than 36 million in Korea and it is increasing even now. Facebook users in Korea are also over 11 million people. The users of Korean mobile messenger 'Kakaotalk' reaches over 100 million people in the world. Most of politicians represent their public policy in Twitter. Many people exchange their opinion through SNS now. IEICE Korea Information Section is trying to strengthen the cooperation with these industries.

This Section supported to hold IoT/M2M Workshop 2013, Jeju National University, Korea, July 1, 2013. Many people from industries, ministries and universities exchanged their opinions in this workshop. Especially, Prof. Vo Nguyen Quoc Bao from PTIT, Vietnam presented "Telecommunication Infrastructure based on M2M/IoT in Vietnam."

Note *: Prof. Young Bok Choi was ready for his valuable presentation but very unfortunately he was forced to be absent from the Session due to his sudden urgent official issues（by Prof. Kenzo Takahashi）*

IEICE Korea, Electronics Section

Jang-Kyoo Shin, Prof. Dr.,
Kyungpook National University,
Representative, IEICE Korea,
Electronics Section

In August 2013, Prof. Jang-Kyoo Shin sent mails to all the IEICE members in Korea-Electronics section in order to encourage them to submit papers to the special section in IEICE Transaction on Electronics on Recent Advances in Simulation Techniques and Their Applications for Electronics. There were many inquiries from the members regarding the special section in the transaction.

Fig. 5 Prof. Keiichiro Kagawa giving his lecture in the seminar

Fig. 6 Prof. Jang-Kyoo Shin introducing IEICE to the participants

The IEICE Korea, Electronics Section planned and organized a Special Lecture at Kyungpook National University (KNU), Daegu, Korea, on February 24, 2014. The Lecture was sponsored by IEICE and Prof. Keiichiro Kagawa of Shizuoka University, Japan was invited to give his talk on "Next-generation Multi-lens Cameras and CMOS Image Sensors". Many IEICE members in Korea who were interested in CMOS image sensors joined the Lecture. Those technologies are exactly the key components in the electronics technology. At the end of the Lecture, Prof. Jang-Kyoo Shin from KNU introduced the overview, role, organization, activities of IEICE and IEICE Korea, Electronics Section. He especially referred to the benefits of memberships and the procedure of paper submission to IEICE Transactions for their easy participation.

IEICE Korea, Communication Section

Choong-Seon Hong, Prof. Dr.,
Kyung Hee University,
Representative, IEICE Korea,
Communication Section

First of all, he referred to the hope of the IEICE Korea, Communication Section that IEICE would continue its prosperity from the academic point of view in the information and communications technology fields. The Section members have tried to empower the exchange of their knowledge through joint activities in the International conferences such as APNOMS, ICOIN, etc. In the Fiscal year 2013, the members attended APNOMS 2013 in Hiroshima, on September 25-27, 2013, which was sponsored by IEICE ICM. The ICOIN 2014 sponsored by IEICE was held in Phuket, Thailand, on February 10-12, 2014. In addition, the Section supported 2013 IEICE Workshop on Internet Architecture (IA2013) which was held at Konkuk University, Korea, on October 10-11, 2013. Dr. Keisuke Ishibashi, NTT was General Chair for IA2013. Prof. Choong Seon Hong (Kyung Hee University) provided a Keynote Speech entitled "Liberal Arts and ICT". He referred to an opinion that Korean members of the Section wished to contribute as the associate editors for the more internationalization of the IEICE Journals such as the IEICE Transactions on Communications and so on.

Fig. 7 Keynote Speech given by Prof. Choong Seon Hong at IA2013

Fig. 8 Prof.C.S.Hong giving a Keynote Speech in IA2013

IEICE Indonesia Section

Jaka Sembiring, Assc. Prof. Dr.,
Institut Teknologi Bandung,
Representative, IEICE Indonesia Section

He introduced the updated trend of ICT development in Indonesia and a wide variety of research topics of IEICE members in Indonesia based on the trend. Since their academic activities have covered quite many areas ranging from theoretical to applied engineering and different fields of interest, he suggested, his short speech would be focused on a very specific area of ICT.

He also referred to current collaborations with industries like Blackberry, TELCO, Governments covering KOICA (Korea) and JICA (Japan), and international universities. As a part of long year sighted R&D environment, he pointed out the new long year national development plan called "MP3EI" in Indonesia and the necessity of collaborations in R&D of ICT.

He pointed out about the current situation of the Section where the key persons who initiated and managed those activities were IEICE members, but they have served individually not as IEICE members, so that they were required to consider how to harmonize their activities with the updated strategy of IEICE, and to establish a firm institutional collaboration between IEICE and academic institutions like Institut Teknologi Bandung (ITB) where most of IEICE members in Indonesia gathered.

The Section arranged the following two events in collaboration with IEICE in this fiscal year :

(1) IEICE Sponsored Lecture. It was given by Prof. Shigeki Goto, Waseda University, entitled "The World Trends of Next Generation Internet Technologies" at ITB on January 23, 2014. The lecture venue was full of about 60 researchers and students. This event was held in conjunction with the APAN Meeting 2014, where many prominent figures in the Internet world joined together. IEICE Indonesia section would like to take initiatives in promoting the awareness of the future Internet technology in Indonesia, as well as creating an avenue for researchers in Indonesia/ITB to make a contact with their partners abroad.

(2) I-Scover capabilities in IEICE. It was introduced by Prof. Kenzo Takahashi, the University of Electro-Communications, to active IEICE members of the Section at ITB on November 21, 2013. Some potential benefits of implementing the I-Scover applications are expected as well as some obstacle in the ITB environment.

The Section is managed by the Section Advisory Board including Prof. Suhono Supangkat, the former Section Representative, Prof. Andriyan B. Suksmono and Dr. Achmad Munir, and the current Section Representative.

Fig. 9 IEICE Sponsored Lecture given by Prof. Shigeki Goto

Fig. 10 Introduction of I-Scover by Prof. Kenzo Takahashi

IEICE Europe Section

Haris Gacanin, Dr.,
Alcatel-Lucent Bell NV,
Representative of IEICE Europe Section

According to his speech, at present the main goal of IEICE Europe Section is to develop a good organizational structure that will provide adequate services to its members. One of the first initiatives that is currently underway is to establish a yearly IEICE Europe event that would help further promotion of IEICE activities. The goal is to strengthen the networking among its members and with the rest of IEICE community and identify the dominant topics of interests the IEICE European Section members. With this in mind, the Section held the second meeting in May 2013, during 2013 IEICE Information and Communication Technology Forum (ICTF2013). Please see the result of the Conference at *http://www.ieice.org/eng/global_plaza/2013/56.html#2*. The Forum serves as a convenient 'research introduction' of the Section towards the rest of the IEICE and fosters network and mutual collaboration among different sections of IEICE.

Some of the past activities were summarized below. The Section had several meetings of IEICE European Section in 2013 as well as the general meeting during 2013 IEICE ICTF in Sarajevo, Bosnia and Herzegovina. Some topics discussed at the event are :

· Organizational structure of IEICE European Section ;
· Efficient information distribution and exchange among IEICE European Section members (Web pages, mailing lists, social networks, etc.) ;
· Preparation of IEICE Europe Section and ICTF Web site
· Preparation of conference submission system and integration with I-Scover
· Promotion of IEICE activities in Europe (IEICE conferences, IEICE transactions, etc.) ;
· Support and assistance mechanisms available to the IEICE Europe Section from the IEICE headquarters.

IEICE European Section supported organization of the Forum where a number of technical and invited speakers took its place from Europe and Japan. He also referred to the future plan that they would establish different committees focused on their corresponding issues. establish different committees focused on their corresponding issues. In such way, the Section expected that IEICE would be able to easier expand its academic activities and services to its members in Europe. Their strategic goal is to increase perspectives for collaboration and help joint initiatives between academia/industry in Europe and Japan.

In 2013, IEICE Europe Section co-organized, apart from the 2013 IEICE ICTF, IEICE Wireless Networks Workshop. Please see it at *http://www.ieice.org/eng/global_plaza/2013/61.html*. This international workshop took place on December 12-13, 2013, at Poznan University of Technology, Poland. Six regular technical sessions constituted the main part of the conference. Additionally, four keynote talks, sponsored by IEICE, were given. The main areas of interest included : analytical and simulation techniques for modeling wireless networks, security in emerging wireless technologies, techniques for collaboration between wireless and wired multi-service networks. About 60 students of Poznan University of Technology participated in the workshop.

In the 2014 fiscal year, the Section organized their main event, IEICE ICTF 2014 and held it in Poznan, Poland, on May 28-30, 2014. Very interesting keynote and invited talks were arranged as well as great number of technical papers, both from academy and industry. The Section is also going to increase the number of local meetings organized by IEICE members.

IEICE Beijing Section

Tao Zhang, Prof. Dr.,
Tsinghua University
Representative, IEICE Beijing Section

On Sept. 20, 2013, Prof. A. Ikeda, a Professor of Kyoto University and Prof. M. Nakamura, a Emeritus Professor of Saga University of Japan, Fellow of SICE, have respectively given special lectures on their research achievements in the School of Medicine of Tsinghua University (TU). Prof. A. Ikeda's presentation title was "Digital EEG recording and reading in neurology patients" and Prof. M. Nakamura's presentation title was "Automatic EEG interpretation". EEG is a kind of neurobiological signal from human brain. It is a very important signal to extract human intention or diagnose the illness from human brain. It belongs to the field of Information and Systems. It is about Medical Engineering (ME) and Biocybernetics (MBE). About 20 attendants attended their lectures and made discussion on these topics.

On Oct. 28, 2013, Prof. Hiroyoshi Yamada of Niigata University gave a special lecture, entitled "Fundamental MIMO Radar and Its Applications" for one hour. Then he answered some questions and had discussion with participants for thirty minutes. After that, Dr. Yi Cui of Niigata University gave a lecture entitled "Recent Advances in Model based Scattering Power Decomposition for Polarimetric SAR Data" for one hour. Then he also answered some questions and discussed some problems with participants. The lecture meeting was held at the meeting room of Rohm Building, Tsinghua University. The number of participants was about 20.

Fig. 11   Prof. A. Ikeda and Prof. M. Nakamura with the participants at TU

Fig. 12   Lectures by Prof. Hiroyoshi Yamada and Dr. Yi Cui at TU

On Nov. 15, 2013, Mr. Yutaka Miyamoto, Senior Distinguished Researcher and Group Leader of NTT Network Innovation Laboratories, was invited to give a talk in ACP2013 (*http://www.acp-conf.org/*) as a cooperation event of IEICE Beijing Section and ACP. The title of his talk was "Crosstalk-managed multicore fiber transmission with the capacity beyond 1 Pbit/s." The abundant content attracted lots of audients from different countries. In order to widen the communication with more teachers and young students, Mr. Yutaka Miyamoto was also invited to visit Beijing University of Posts and Telecommunications (BUPT) and delivered a lecture entitled "High capacity optical transmission beyond 1 Pbit/s using crosstalk-managed space division multiplexing" in Nov. 12. Associate Prof. Yongmei Sun chaired the lecture meeting. About 40 people attended this lecture and discussed technical issues.

On Sept. 24, 2013, Prof. Kenzo Takahashi visited IEICE Beijing Section and introduced I-Scover to Prof. Tao Zhang (Tsinghua Univ.) and Associate Prof. Yongmei Sun (BUPT). To promote the I-Scover to more researchers, Associate Prof. Sun arranged the I-Scover leaflets to be provided on the occasion of ACP2013. Many ACP attendants showed their interest in I-Scover and took the leaflets.

Fig. 13   Mr. Yutaka Miyamoto with the participants in his lecture in BUPT

Fig. 14   Prof. Kenzo Takahashi introducing I-Scover in the Section

IEICE Bangkok Section

Tuptim Angkaew, Assc. Prof. Dr.,
Chulalongkorn University,
Representative, IEICE Bangkok Section

She introduced the Committee of the Section organized by four members, Honorary Advisor/Prof. Prasit P., Chair/Assc. Prof. Dr. Tuptim, Vice Chair/Assc. Prof. Dr. Watit Benjapolakul, Treasurer/Asst. Prof. Supavadee Aramvith, and gave an overview of their technical activities.

In the fiscal year 2013, IEICE Bangkok Section organized one regular workshop TJMW 2013 and one joint seminar iEMAT 2013. The results of these events were summarized as follows.
(1) iEMAT 2013 Seminar

It was held on October 8-9, 2013. IEICE co-organized a seminar on Electromagnetic with iEMAT (Innovative EM Academy of Thailand) at PTEC, King Mongkut's Institute of Technology, Ladkrabang. The number of participants was 42. The young researcher including graduate students, academic staffs presented their papers and had a technical visit to EMC/EMI Center at PTEC. The research interests were electromagnetic theory, microwave engineering, antenna engineering, and EMC.

Fig. 15   The participants in iEMAT 2013 Seminar

(2) Thailand-Japan MicroWave 2013 (TJMW 2013)

It was held on December 3-4, 2013. IEICE Bangkok Section served as a co-organizer of Thailnd-Japan MicroWave (TJMW) since 2009. The TJMW 2013 was organized by Kasetsart University, Mongkut University of Technology, North Bangkok (KMUTNB) and Suranaree University of Technology (SUT). Total number of papers was 91 papers from Thailand, Japan, Indonesia, Vietnam, Algeria, Spain, India, Malaysia, and Myanmar. The two days program consisted of two Keynote Plenary Sessions, regular sessions and a young researcher session along with student poster session. The paper awards were presented to four Thai students and four Japanese students. The best paper awards supported the travel expense for Thai students to present papers at IEICE General Conference in Niigata, 2014. TJMW 2013 gained a lot of interest in many aspects such as technical exchange and promoted the activity of IEICE to young researchers in Thailand. On the occasion of TJMW2013, eight graduate students applied for their memberships and successfully joined IEICE.

Fig. 16   The participants in TJMW 2013

(3) IEICE Sponsored Lectures
⟨TJMW 2013 Tutorial Lecture on December 2, 2013⟩

IEICE, IEICE Bangkok Section and Kasetsart University co-organized four tutorial lectures given by experts in the field of Microwave and Antennas, Prof. Takashi Ohira (Toyohashi Inst. Tech.), Prof. Komurasaki (Tokyo Univ.), Dr. Hiroyuki Kayano (Toshiba), and Prof. Naobumi Michishita (National Defence Academy). The number of participants was 80.
⟨Introduction of I-Scover member services⟩

Committee Member of IEICE Bangkok section and students from Chulalongkorn University joined a training of I-Scover member service by Mr. Chimura. All participants were impressed with the powerful and useful I-Scover functions to search knowledge-based information.

Message from TFIPP Secretariat

This issue is delivered also by a free mail magazine "IEICE Global Plaza Online" with updated news of interest for you. Please contact Prof. Takahashi, TFIPP (Task Force for International Policy and Planning) at *global@ieice.org*, if you need. Back numbers are available in archives at :
http://www.ieice.org/eng/global_plaza/index.html/