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Contents

Activities of Technical Committee related to Human Phantoms for Electromagnetics and Applications of Body Area Radiowaves

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Introduction

It is my pleasure to introduce the "Technical Committee on Applications of Body Area Radiowaves (ABR)". From 1998 to 2006, the former committee named "Technical Committee on Human Phantoms for Electromagnetics (HPEM)" has studied relations between electromagnetic field and human body. Following that, in May 2006, technical committee on ABR was established to update the research themes. Moreover, in May 2008, the committee will be renewed from nondisclosure to disclosure style for return of the research achievements to the society members. Here, past activities of the committee and activities of the renewed committee are introduced.

Past Activities

Around the working period of technical committee on HPEM, it coincides with the explosion of cellular phone in the world. Therefore, "measurements and calculations of SAR (specific absorption rate) in the human head", "analyses of the characteristics of the antenna for the cellular phone close to the head", etc. were investigated in the committee. In this period, twice tutorial lectures were held in the society conference of 2000 and 2003 (Photo 1). Moreover, technical report entitled "Schematization of Researches related to the Human Phantoms for Electromagnetics" was published by financial support of Communications Society in 2003. This technical report consists of a printed document and a CD-ROM (Photo 2) and has been useful for many researchers even today.

From 2006, the technical committee on ABR succeeded the research themes from the former committee and expanded the targets. For example, the technical committee on ABR treats not only wireless communication devices but also applications of electromagnetic wave such as RFID tag, wearable devices, medical equipments, etc. In August 2006, "Workshop on Applications of Body Area Radiowaves" was held sponsored by the technical committee on ABR and the National Institute of Information and Communications Technology, Japan. In the workshop, seven researchers, who were leading-edge researchers, were invited from USA, EU, Korea, and Japan (Photo 3).

Activities of renewed committee

After May 2008, the technical committee on ABR will be changed as a disclosure committee and will plan some workshops, which is discussed the latest applications of electromagnetic technologies around the human body. Your contribution would be deeply appreciated.

Photo 1   Tutorial lecture held at Niigata University (September 2003).

Photo 2   Technical report published by the technical committee on HPEM.

Photo 3   Workshop on Applications of Body Area Radiowaves held at Chuo University (August 2006). All lectures with the executives of the technical committee on ABR.

Report on the event commemorating the 30th Anniversary of IEICE-CS EMCJ Technical Committee

Shinobu Ishigami
NICT (EMCJ secretary)

1. Introduction

EMCJ Technical Committee was established in May 1977 by Prof. Risaburo Sato at Tohoku University. The event commemorating the 30th Anniversary of IEICE-CS EMCJ Technical Committee had been organized in Tohoku University in 25th October, 2007.

2. Date and venue

The event had been held form 15:45 PM to 19:00 PM in 25th October, 2007. The venue was the Research Building No.1 - Electrical, Information and Physics Engineering, School of Engineering, Aobayama Campus, Tohoku University. On the day and the next day, EMCJ/MW joint meeting was also held in the same place. The participants were more than a hundred.
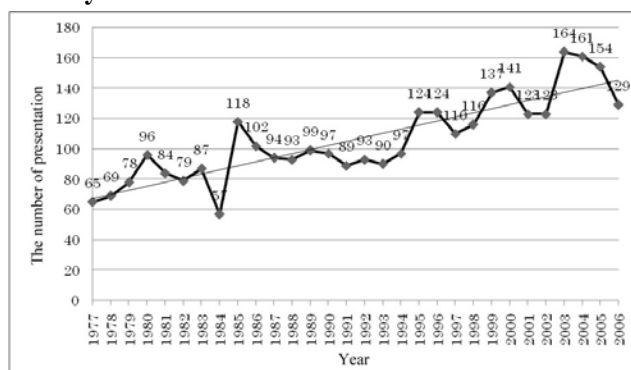
History of EMCJ

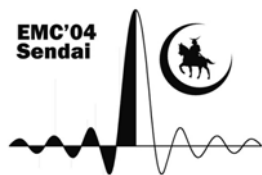Fig.1: Changes in the number of presentations.

Fig.2: The logo of EMC'04 Sendai.

EMCJ Technical Committee was established in 1977. More than 3200 papers concern to the electromagnetic compatibility (EMC) researches had been reported until 2007 that is the 30th anniversary of EMCJ. The presented papers are increasing yearly as shown in Figure 1. The number of the successive chairmen of EMCJ is 14 for 30 years.

The second-class technical meetings have been also organized during this last three decades as the following;

- ◆ EMC workshop for electrical and electronic equipment (has been held 19 times since 1989)
- ◆ Workshop for EMC basics (has been held 3 times since 2005)
- ◆ Pan-Pacific EMC joint meeting on EMC (PPEMC, has been held 3 times since 2004)
- ◆ Korea-Japan AP/EMCJ/EMT Joint Conference (KJJC, has been held 6 times since 1988)
- ◆ Asia-Pacific Conference on Environmental Electromagnetics (CEEM, has been held 4 times since 1996)

EMCJ had also organized an international symposium of which name is the International Symposium on Electromagnetic Compatibility, Japan. The symposium started on 1984 and had opened every five years. Figure 2 shows the logo of EMC'04 Sendai. Next symposium will be held in 2008 in Kyoto. The detail of the symposium will be given by the following URL.

[URL: http://www.ieice.org/emc09/]

EMCJ granted an award to the young researchers since 2004. Twelve young researchers are given the award.

EMCJ has proposed EMC researchers for the fellow of IEICE. The eleven fellows are granted the fellow award of IEICE as the followings;

- Prof. Yoshifumi Amemiya (2001)
- Prof. Kunihiro Suetake (2001)
- Prof. Tasuku Takagi (2001)
- late Prof. Shinobu Tokumaru (2002)
- Prof. Norihiko Morinaga (2002)
- Prof. Shuichi Nitta (2003)
- Prof. Masamitsu Tokuda (2004)
- Prof. Akira Sugiura (2005)
- Prof. Yoji Nagasawa (2006)
- Prof. Yoshio Kami (2007)
- Prof. Yoji Kotsuka (2007).

4. Memorial speeches

Two memorial speeches were performed by Prof. Risaburo Sato and Prof. Tasuku Takagi (emeritus professors of the Tohoku University). The titles of Prof. Sato and Prof. Takagi were "Beginning of EMC research in Japan" and "Reminisce in the early part of EMCJ". Figure 3 shows a picture of the memorial speech by Prof. Sato. The scene of the speech by Prof. Takagi is also shown in Figure 4.

Fig.3: The memorial speech by Prof. Sato.

Fig.4: The memorial speech by Prof. Takagi.

Fig.5: The special lecture by Prof. Tokuda.

Fig.6: Opening address by Prof. Hashimoto.

Fig.7: Opening address by Prof. Sone.

Fig.8: Guest speech by Mr. Tanaka.

Fig.9: EMCJ contributors (Prof. Echigo, Prof. Tokuda, Prof. Nagasawa, Prof. Inoue, Prof. Takagi, Prof. Sugiura, Prof. Kami, Prof. Kotsuka, and Prof. Koga).

5. Special lecture

Prof. Masamitsu Tokuda (Musashi Institute of Technology) had talked about "My conversion from optical fiber cable to EMC (Electromagnetic compatibility) for telecommunication system" as a special lecture after the memorial speeches as shown in Figure 5.

6. 30th anniversary celebration

After the speeches and the lecture, the celebration to commemorate the 30th anniversary was held. Prof. Inoue (Akita University) of the chairman of EMCJ

technical committee, Prof. Hashimoto (Aoyama Gakuin University) of the chairman of MW technical committee, and Prof. Sone (Tohoku University) of the general manager of Sendai Seminar had delivered opening addresses (See Figures 6 and 7). After that, a guest speech was talked by Mr. Kenji Tanaka (Administrator of Tohoku Bureau of Telecommunications, Ministry of Internal Affairs and Communications) as shown in Figure 8.

Fig.10: Commemorative USB flash-memory with the EMCJ-logo.

EMCJ committee had presented EMCJ contributors (successive chairmen) certificates of gratitude (See Figure 9). They are "powerhouse" seniors who have supported EMCJ committee. Prof. Nitta was not presented because he attended 4th International Symposium on EMC Qingdao as a delegate from Japan. EMCJ committee had gifted all participants a 30th anniversary issue with the EMCJ activity log and a commemorative USB flash-memory with the EMCJ-logo (See Figure 10), which was made by using "the enlivenment fund" of IEICE-CS.

7. Conclusion

Fig.11: The group photo of the event the 30th Anniversary of IEICE-CS EMCJ Technical Committee.

The history of IEICE-CS EMCJ technical committee and the 30th Anniversary of EMCJ in Tohoku University in 25th October, 2007 are reported. The group photo of the event is shown in Figure 11.

The details of the event are placed in the following sites.

http://www.ieice.org/cs/emcj/jpn/events/emcj30/30threport.html

http://www.itmag.ecei.tohoku.ac.jp/events/20071025emcj30th/

Report on the 5th QoS Workshop

Kyoko YAMORI (ASAHI University)
Hideyuki SHIMONISHI (NEC Corp.)
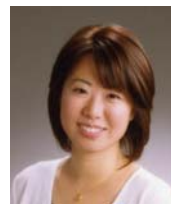
1. Workshop and venue

The 5th QoS Workshop was held on November 2, 2007 at Sanjo Conference Hall in the University of Tokyo, Japan (Fig.1). The workshop was organized by IEICE Technical Committee on Communication Quality, which covers a broad range of research topics on communication quality. This workshop focused on the hot topics on user perceptual communication quality, including QoE (Quality of Experience) and beyond for future networks. Not only discussed QoS/QoE issues from a network side, the workshop also addressed the issue from a human perceptual side.

2. Technical and poster sessions

59 people participated in this workshop (Fig.2). The workshop consisted of a technical session (3 talks), poster session (10 posters), and demonstration session (5 demos). In the technical session, we had 3 invited speakers presenting "Neural Correlates of Natural Image Qualities" by Dr. Qi Zang (SONY CSL), "Perspectives toward New-Generation Networks" by Prof. M. Murata (Osaka University), and "A Guideline on QoE Research for NGN and NWGN" by Prof. S. Tasaka (Nagoya Institute of Technology). Dr. Zang discussed the relationship between image quality and brain activities, as well as human brain imaging techniques. Prof. Murata overviewed the problems of current network researches and discussed perspectives for future network researches. He emphasized on the needs for fundamental and scientific research activities for future network architectures. Finally, Prof. Tasaka overviewed activities for current QoS/QoE researches, and discussed problems of them. He also showed several on-going QoE research activities in detail.

In the poster session, all the attendees had active discussions in a friendly atmosphere (Fig. 2). The poster session covers a broad range of communication quality, overlay networks, and network QoS control and measurement. In the poster session, one best poster and three excellent posters were selected (Fig. 3). The best poster award was sent to Mr. Masato Eguchi with his poster "A Study on Factor of Customer Satisfaction about Internet Services Quality".

3. Conclusion

QoS and QoE related issues will attract more attentions in the research areas of new generation networks and future communications. The issues are growing into interdisciplinary areas of network and human activities. The next QoS workshop will be held in autumn, 2008.

Fig.1 Workshop Room

Fig.2 Poster Session

Fig.3 Award winners (Mr. Eguchi, Mr. Itakura, Mr. Lane, and Mr. Morishita, from left)

Report of Meetings with Presidents of Sister Societies

Miki Hirano
Director of General Affairs

In the year 2007, we are pleased to inform you that Presidents of two sister societies, i.e., IEEE COMSOC and Korea Information and Communications Society (KICS) visited our society. We had chances to meet with them to exchange ideas on various society activities and to further strengthen our mutual friendship and collaborations. This is a brief report on these two meetings.

Meeting with IEEE COMSOC President

IEEE COMSOC President Dr. Nim Cheung visited IEICE-CS headquarter building in Tokyo on July 11, 2007, taking an occasion of his participation in OECC/IOOC2007 Conference. From IEICE-CS, President Prof. Susumu Yoshida, President-Elect Prof. Kenichi Mase, Vice President Prof. Masahiro Umehira and Dr. Miki Hirano participated in the meeting. Professor Naohisa Ohta and Dr. Takashi Shimizu also joined from IEEE COMSOC Japan Chapter. We had a very fruitful discussion between IEEE COMSOC and IEICE-CS. Dr. Nim Cheung introduced current status, recent activities and future vision of IEEE COMSOC to us. From IEICE-CS, Vice President Prof. Umehira introduced our current status and recent activities to Dr. Nim Cheung. We also discussed future possible collaborations, and confirmed to further strengthen our mutual collaboration in the near future.

Meeting with KICS President and Board Members

KICS President Prof. Byeong Gi Lee, Prof. Daehyoung Hong, Prof. Hyung Jin Choi and Prof. Jong-Seon No visited IEICE-CS headquarter building in Tokyo on October 29, 2007, taking an occasion of their participation in Wireless Broadband World Forum 2007 hosted by KICS held in Shinagawa, Tokyo. From IEICE-CS, President Prof. Yoshida, Vice Presidents Prof. Umehira and Dr. Shinichi Nomoto participated in the meeting. Professor Tomonori Aoyama, who was the former Vice President of IEICE, also joined in the meeting.

We had a very fruitful discussion between KICS and IEICE-CS for more than two hours including lunch time. Professor Byeong Gi Lee introduced current status and recent activities of KICS including launching of a new IEEE ComSoc-KICS Exemplary Global Service Award annually presented at IEEE GlobeCom/ICC awards luncheon. From IEICE-CS,

Fig.1 Members participated in the meeting with IEEE COMSOC President Dr. Nim Cheung (front: Prof. S. Yoshida, Dr. Nim Cheung and Prof. K. Mase (from left), rear: Prof. M.Umehira, Dr. T. Shimizu, Prof. N. Ohta and Dr. M. Hirano (from left)).

Fig.2 Members participated in the meeting of KICS and IEICE-CS. (Prof. Daehyoung Hong, Prof. Tomonori Aoyama, Prof. Hyung Jin Choi, Prof. Susumu Yoshida, Prof. Byeing Gi Lee, Prof. Masahiro Umehira, Prof. Jong-Seon No and Dr. Shnichi Nomoto (from left to right).

Vice President Prof. Umehira introduced our current status and recent activities to KICS board members. This kind of face-to-face meeting is surely very important for further enhancing our friendship and collaboration between KICS and IEICE-CS.

The Strength of European Union

Takeshi Ozeki

Department of Electrical and Electronics Engineering, Faculty of Science and Technology, Sophia University

1. Introduction

Recent days, we are impressed with the aggressive EU in contribution to such a new generation network aiming service integration, and the OTN standardization. Our JSPS photonic network system technology 171st committee (http://www.jsps.go.jp) held the Comprehensive Symposium 2007 on Photonic Networks as Social Infrastructures in last September. The real target of the symposium is to find the secrets of the strength of EU. This letter is a personal report of this symposium.

In preparation stage of the symposium, we discussed working hypothesis as: (1) the EU strategy of leading position in conversion of matured culture to the revolutionary wealth [1]: the super high-quality brand strategy such in the fashion business, adding to proposals of conceptually new application systems. (2) the Americanization: it is observed various areas, such as in education revolution aiming equal opportunity and competition principle, and in the merge of Alcatel and Lucent. My basic question is why EU intends to follow the American social style?

Our comprehensive symposium consisted of ECOC2007 session in Berlin to study the trend of photonic networks, Nokia-Siemens session at Munchen to discuss new generation networks, Padova University session to find Galileo's passions in education, and the IMEC session with Ghent University to study the collaboration through EU.

The details will be reported in final form from the committee, so here this is a brief introduction.

2. Lisbon Strategy

Even in today's Web-encyclopedic world, the direct impact through our five-senses, such as the taste of the craft beer, stimulated us to search various basic strategy of EU. A question felt in ECOC2007 was why EU prepares Silicon-Photonics Platforms for collaboration with passion, and the answer is found in the Lisbon Strategy. In the seventh Framework Program (FP7)[2], the main objective is declared clearly: "Knowledge lies at the heart of the European Union's Lisbon Strategy to become the "most dynamic competitive knowledge-based economy in the world". The knowledge triangle - research, education and innovation- is a core factor in European efforts. EU industrial policy for growth and employment is listed:
* Making EU a more attractive place to invest and work.

* Putting knowledge and innovation at the heart of EU growth.
* Shaping policies to allow businesses to create more and better jobs.

Also it is declared clearly "the health of manufacturing industry is essential for EU ability to growth and to sustain the EU's economical and technological leadership."

The ICT (Information and Communication Technology) is the foundation of innovation in all categories of industries. It is my surprise to find that "the Fashion and Design" industry with 8% EU manufacturing value-added is listed in the four industry categories. The FP7 should spend 15% budget for small-medium enterprises to achieve the Barcelona 3% target of R&D. An American small firm has an R&D budget 7-8 times higher than a European small firm[3]. Universities also owe R&D collaborations to support SMEs, such as the Silicon photonics platform.

A committee communication argues: "SMEs are an important source of flexibility of EU supply and value chains-absorbing cost pressure, re-organizing work processes, and introducing new technology more rapidly than large firms could do alone. By Imitation and Innovation, they enrich the market supply of goods and services."[3] The last sentence surprised me, and I wonder what makes EU so aggressive.

Fig.1 Padova University

3. Americanization

It was said that EU universities enjoy their " ivory tower" in good sense. Enlargement of EU is, however, changing the circumstances: requests of equal opportunities. EU education issue is reported that the rapid increase in college entrance rate from a few % to 40~60% pushes the university revolution based on the Bologna Declaration in 1999, which aims to realizes the equal opportunity and competition [4]. The EU commission urges the European university reform from strict hierarchies, formality of relations and lack of collaboration. Unless catching up US in innovation, the future European universities: Renaissance or decay ? ".

It was my recognition that Europe leaves the manufacture technology such as super-computers to US and Japan, but keeps the high-level application systems,

such as super heat-fluid dynamics programs. However, I felt that ICT forced EU to change this strategy: even the human sciences, which were established by Europe, are under reconstruction using ICT.

4. New age of photonic networks

EU photonics industry seems to concentrate its ability on R&D for new sophisticated photonic application systems, including the silicon-photonics on which all system functions are integrated. The poor individual performances of integrated devices can be compensated by electronic equalization and error correction: its cost reduction realizes it ubiquitous. This might be an EU strategy of ICT and is one of the secrets found through the symposium. This silicon-photonics will conquer the photonic world.

5. Vacancy in Matured European Culture

In our hypothesis, EU has the leading position in conversion of their matured culture, established through the European history, to the revolutionary wealth. However, I felt some vacancy in matured European culture, during our comprehensive symposium.

"Scientification" of the philosophy destroyed the philosophy itself, or the basis of the European culture and the moral standard.

Kant studied Newton dynamics, and then wrote his revolutionary concept of human rationalism. Hegel expanded its human ability to establish the European modern rationalism, which was the basis of European

Fig. 2 Newton and Kant (http://en.wikipedia…)

moral standard.

Einstein established the theory of relativity, which denied the absolute time-space in Newton dynamics because the ether is "un-observable".
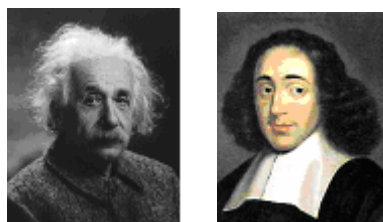
After the destruction of the absolute existence, the

Fig. 3 Einstein and Spinoza(http://en.wikipedia…)

existentialism tried to re-establish the moral standard, by Sartre [5]. As "the post-modern", there are many trials but the European philosophy does not seem to be re-established.   This vacancy is serious difficulty for the real EU education. I believe this vacancy is caused by the fact that the European logic is " to select one from the two".

6. "Respect two of the two"

Some philosophy or religion in the eastern world has different logic. For an example, the 17-article constitution by Prince Shotoku [6] issued in 607 argued that "Wa", the collaboration between groups with different value systems, is the first priority, after the serious battle between the Buddhists and the Shintoists. Here, both religions are respected and it never happened "to select one from the two". In 18th century, the Shingaku [7], presided by Baigan Ishida, argued that any religions useful to realize health of mind should be respected. I believe this idea is the same as Spinoza: It is well known that Einstein believed the god of Spinoza.

7. Age of "respect two of the two"

The strength of EU is the strategy for the growth. The reason of EU aggressiveness might be due to the vacancy in the European culture.

Through this symposium, I felt that the multi-disciplinary education including the philosophy for researchers is inevitable today, because there is no map for the future of ICT and our creative works.

Finally, I felt that the age of "respect two of two" is inevitable for the peaceful life in the finite earth.

8.   Reference

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7. http://en.wikipedia.org/wiki/Shingaku

Opinion: Enhancing Activities of IEICE Sections Towards New Overseas Memberships

Nasaruddin and Tetsuo Tsujioka
(Osaka City University)

1. Introduction

In this article, the authors would like to give opinion as a (foreign) student member of the IEICE communications society (IEICE-CS). The aim of this article is to view what the IEICE-CS can do for enhancing overseas members and seek the views of overseas members on what they expect from the IEICE-CS overseas sections and services in general. The IEICE-CS is the largest number of memberships in the IEICE societies. Activities of the IEICE-CS are continuously support research, innovation, and technology transfer in a way that is mutually beneficial to the members inside and outside Japan. Currently, the overseas IEICE society's activities still seem to be few, even in its overseas sections. Moreover, the overseas members of IEICE are dominantly by the countries closest to Japan such as Korea, Taiwan, and China. It showed that these countries have sufficient information of the IEICE compared with the other countries. To enhance the society's members, dissemination of information, and the IEICE-CS promotion are being important to be employed in worldwide community. Furthermore, the activities, services, and overseas sections of the society should be enhanced towards a global international networking and the number of memberships.

2. Overseas Membership and Services

2.1 Continent of Residence

Figure 1 shows the IEICE overseas membership as of July 31, 2007 [1]. It has 2200 members represented in 51 countries and six continents. Most of memberships by continent are resident in Asia about 89.6%. The minority members are resident in the other five continents, which are about 10% of the IEICE's overseas memberships. Moreover, Korea, Taipei, and Beijing are most members' resident countries/cities of the IEICE overseas memberships in Asia. From this, it can be said that the IEICE is a well-known engineering institution in East Asia. However, as its vision and mission, the IEICE should pay more attention to increase its membership in the other regions and continents.

2.2 Overseas Membership Services

The IEICE offers several benefits for its members. It also offers a special rate for overseas members on a limited income applicable to members living in countries such as those in Asia and Africa. The

membership benefits remain the same. This could be an advantage of the IEICE membership to recruit new overseas members especially for those who reside in the countries. However, it seems that the promotion of the service is still less. Therefore, the overseas IEICE sections should work with educational institutions, industrial professional, and engineers in the sections to promote the service and the others benefits in order to recruit new members.
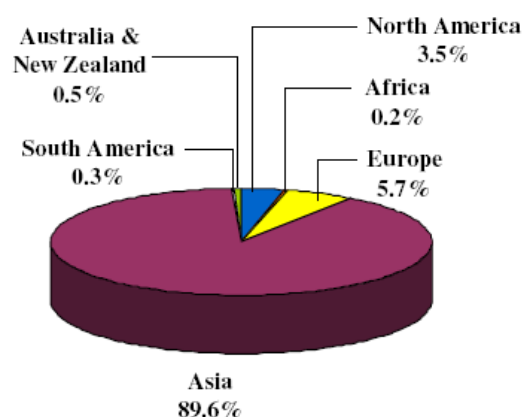
Fig. 1   Membership by Continent of Residence

3. Overseas Sections

The IEICE has been established its sections in several countries/cities since 2003 with objective of providing the members of the sections to a common platform of the IEICE. This is also a way for the members to share experiences and knowledge through the participation of different activities such as lecture meeting, workshop, and overseas section representatives meeting. To date, the IEICE sections are limited to a few countries/cities as shown in Table 1 and have organized a few activities. Furthermore, there are the IEICE sections with a small number of members. It may be indicated by fewer activities, information, and promotion in the sections. Therefore, increasing activities in the sections are geared towards new overseas memberships with a further explanation of the benefits that could be provided by the IEICE for the members.

4. The View of IEICE in Indonesia

Indonesia has been selected as one of the IEICE overseas sections, where one of the authors of this article is an Indonesian student at Osaka City University and as a student member of the IEICE-CS.

As his experience, He does not know more about the IEICE before studying in Japan, because he had not received any information and promotion of the IEICE. Now, he can get many benefits by joining the IEICE to support his references and research works as well. Here, the authors want to view some points why many Indonesian's researchers are not yet join the IEICE. Firstly, there is no much information and promotion of the IEICE that they can reach. Secondly, very few conferences, meetings, and lectures are sponsored by the IEICE in Indonesia section. On the other hand, most Indonesian researchers may be familiar with another Institute e.g., IEEE, because there are many members of the IEEE who have promoted the institute. In addition, there is no language barrier in order to get the information. Therefore, beside the above two points, the IEICE-CS should also provide sufficient information in English so that the language barrier can be avoided.

Table 1. The current four IEICE Overseas Section Representatives are as follows [2];

Section	Name	Affiliation
Bangkok	Watit Benjapolakul	Chulalongkorn University
Beijing	Jian Yang	Tsinghua University
Indonesia	Suhono Harso Supangkat	Bandung Institute of Technology
Korea, Communication	Chul-Hee Kang	Korea University
Korea, Electronics	Hee-Don Seo	Yeungnam University
Korea, Information	Yong-Jin Park	Hanyang University
Shanghai	Ronghong Jin	Shanghai Jiaotong University
Singapore	Lei Zhu	Nanyang Technological University
Taipei	Tzong-Lin Wu	National Taiwan University

5. Enhancing the IEICE Section Activities

The IEICE has provided several approaches for its access to and from the international members through its sections in several countries, as shown in Table 1. So that it is capable to perform its professional duties, both in Japan and overseas. Normally, enhancing activities of an organization may increase its members/supporters. The authors suppose that enhancing activities of the IEICE sections will be an alternative way towards new overseas memberships.

Generally, the IEICE sections may organize some requirements towards new overseas memberships such as introducing new activities, reviewing the services, and developing section group members with those who have experienced in studying or working in Japan. Specifically, the current and new overseas members expect that the IEICE would provide them as the following requirements:

1. Enhancing activities of the sections which are geared towards new memberships.
   - The sections should provide intensively communication and meetings.
   - The sections should conduct regular lectures, workshops, and conferences in each section.
2. Adding new services; Online new and renew overseas membership will be important to the members, where the service is not available in current services of the IEICE. This service will be an easy way for the current and new memberships to update their membership.
3. Publishing opportunities; The IEICE should provide sufficient information on regular and special call for papers to the overseas members frequently. So that the members are not only receiving the published papers, but also contributing new papers.
4. Create a working group of the IEICE overseas members in each section. This can be achieved by utilizing the members who have experienced in studying or working in Japan.
5. Provide a mailing list for overseas members who want to. Thus, members can easily receive the information of events or activities to be conducted by the IEICE.

The above points of view will be obviously open to seek new overseas members. The IEICE should try to promote their services and benefits in its sections towards new members who may become the valued member of the IEICE. We believe that the IEICE is growing to be a great institution with new members in international networking. In other words, the IEICE should keep an eye on new overseas members coming through the doors and make sure they settle in.

6. Conclusion

The IEICE-CS is the largest society of the IEICE in Japan and will have more power in a global international networking by growing the number of its memberships. It has established the international access through its overseas sections in several countries. Enhancing the activities of its sections may be followed by enhancing the new overseas memberships; of course, the comprehensive information and some new services for the members should also be provided.

7. References

[1] http://www.ieice.org/eng/member/OMdata.html
[2] http://www.ieice.org/eng/area/2007report.html

"Prospects of Tera-bit communication networks opened by Ethernet technology," Report on the 21st Optical Communication Systems Symposium

Technical Committee on Optical Communication Systems

1. Overview

The 21st Optical Communication Systems (OCS) Symposium, sponsored by the IEICE Technical Committee on OCS, and in cooperation with IEEE LEOS Japan Chapter and the IEICE Technical Committee on Photonic Networks, was held on Dec. 20–21, 2007 at the Toray Human Resources Development Center in Mishima city. The subject of the symposium was "Prospects of Tera-bit communication networks opened by Ethernet technology". The agenda of this symposium is described in Table 1. In all, 178 participants attended. This symposium had a product exhibition, prepared by 17 companies, in the lobby adjacent to the conference room.

Fig. 1 New logo of the OCS technical committee.

Fig. 2 Keynote speech by Mr. H. Shinohara.

Table 1. Agenda of the Symposium

Date	Program
12/20	1. Opening Remarks
	2. Keynote Speech
	3. Workshop I with Panel Discussion
	4. Reception with Presentation of Awards
	5. Rump Session
12/21	6. Invited Lectures
	7. IEEE LEOS Award Lecture
	8. Workshop II
	9. Closing Remarks

2.   The first day – Dec. 20

At the opening session of the symposium, the opening address was given by Prof. Yoshiaki Yamabayashi, the committee chair of IEICE OCS. He reported activities of the OCS technical committee in 2007. The OCS logo was introduced during his speech (Fig. 1). The logo was adopted from this year to signify OCS activities globally.

Technical sessions started with the keynote speech "Ubiquitous and broadband communication supported by photonic networks" given by Mr. Hiromichi Shinohara of NTT (Fig. 2). His talk included descriptions of (1) environmental change of ICT, (2) the basis of NGN technology, (3) the present progress and the future of optical access networks, and (4) issues and corresponding actions for system development. His message, based on his original experiences as a pioneer of FTTH, made a deep impression on the audience.

After the keynote speech, Workshop I – "Recent Progress on IP and Ethernet technologies" was chaired by Mr. Minoru Shikada of NEC. The workshop clarified "how Ethernet technologies change optical communications", and "what IP networks, supported by the Ethernet, provide us". The workshop included four invited talks and a panel discussion (Fig. 3). The invited talks described standardization of carrier-class Ethernet technologies, recent progress of Ethernet transport technology through OTN, recent progress of 10GE-PON, and the past and the future of the re-transmitting of IP video data.

The OCS award ceremony was held in the reception area (Fig. 4). The technical committee of OCS shall offer two awards from this year: the "IEICE Communication Society OCS Best Paper Award" and the "IEICE Communication Society OCS Young Researchers Award" to excellent authors presenting at OCS technical committee meetings for the year. One paper was selected for the Best Paper Award.

- "PMD tolerance of RZ-DQPSK and transmission experiments in high PMD fibers" authored by Mr. Toshiya Matsuda, Mr. Tomoyoshi Kataoka, Mr. Takeshi Kawasaki, Mr. Tsutomu Kubo, Mr. Takashi Kotanigawa, Mr. Sohichiro Usui, and Mr. Shinji Matsuoka (NTT)

Two researchers received the Young Researchers Award.

- Mr. Ken Tanizawa (Univ. of Tokyo): "Feedback control of tunable polarization mode dispersion compensator using random step size hill-climbing method for adaptive PMD compensation"
- Ms. Kanako Suzuki (Hitachi Cable Ltd.): "Development of field installable connector for holey fiber"

The OCS chair presented a testimonial, a glass-trophy, and a book coupon to each award recipient.

The rump session was opened after the reception. The title was "Optical communications for saving the Earth". Mr. Toshifumi Hasama of AIST and Mr. Shiro Nishi of NTT were invited as panelists. Various opinions from attendees were presented as if at a year-end party. The able chairing of Mr. Nori Shibata of Yazaki produced a friendly atmosphere for this session filled with fruitful discussion.

Fig. 3 Panel discussion of Workshop 1: from the right, Mr. M. Shikada, Mr. H. Ohta, Mr. T. Katagiri, Mr. K. Tanaka, and Prof. Y. Homma.

Fig. 4. OCS award-winners: from the right, Ms. K. Suzuki, Mr. K. Tanizawa, Mr. T. Matsuda and his group.
Presenter: Prof. Y. Yamabayashi (center).

3. The second day – Dec. 21

The second day began with the technical session of four invited lectures to cultivate participants' knowledge of the future of optical communications (Fig. 5). The first invited lecture was "Digital modulation and related technologies" given by Prof. Yoichi Saito of Wakayama Univ. He explained complicated modulation techniques used in wireless communications such as OFDM and MIMO, with simple illustrative descriptions. The second lecture was "Brief history of Ethernet" given by Mr. Koichiro Seto of Hitachi Cable Ltd. He gave a comprehensive review of Ethernet technology along with its history. The third lecture was on "Biology and psychology applicable to tele-communications" given by Mr. Hajime Nakamura

of KDDI Labs. He emphasized that developers can make more effective communication links, applications, and services if they can better understand human behavior patterns and signal processing in human brain. The last lecture was sponsored by the IEEE/LEOS Japan chapter as an award lecture of the 2006/2007 IEEE/LEOS Distinguished Award. The lecture was given by Mr. Masaya Notomi of NTT, entitled "Control of light by photonic crystal nano-cavities". He introduced his recent work on nano-cavities in photonic crystal. The developed cavity can serve a high quality factor and can enable all-optical logic gates and wavelength conversions without nonlinearity.

The final session was Workshop II, entitled "State-of-the-art technology of 40/100GbE", chaired by Mr. Toshio Morioka of NICT. This session specifically addressed high-speed client signal transmission. Six invited speakers discussed (1) the trend of IEEE 802.3 HSSG, (2) possibilities for higher capacity transmission, (3) interconnection of high-speed signals between LSIs/modules, and (4) recent progress in North America (Fig. 6).

Fig. 5 Presenters at the invited-lectures session: from the left, Prof. Y. Saito, Mr. K. Seto, Mr. H. Nakamura, and Mr. M. Notomi.

Fig. 6 Presenters of Workshop II: from the left, Top: Mr. S. Kobayashi, Mr. S.L. Jansen, and Mr. A. Sano. Bottom: Mr. S. Nishimura, Mr. K. Kurata, and Mr. K. Kojima.

4. Conclusion

We believe that all participants were satisfied with the invitees' presentations and discussions related to the Ethernet and its associated technologies at this symposium. Most participants remained in the conference room long after the final talk had concluded.

Finally, the technical committee on OCS would like to thank all speakers and participants for their efforts.

Report on Workshop for SANE 2007

Yoshio KOSUGE

Chair of the Space, Aeronautical and Navigational Electronics (SANE) Technical Group

1. Introduction

The 3rd international workshop for Space, Aeronautical and Navigational Electronics (WSANE2007) was held in Perth, Australia on April 15-18th, 2007. The workshop was organized by Technical Committee on SANE of Communication Society of IEICE. This workshop covers satellite and space-station systems, remote sensing and observation technologies, radar, navigation, and communication systems.

2. Technical sessions

The venue was in Australian Resources Research Centre (ARRC) (Fig.1) of Commonwealth Scientific and Industrial Research Organization (CSIRO), which was in the suburbs of Perth, the capital city of Western Australia.

Fig.1 ARRC of CSIRO in Perth.

The workshop was organized by the Steering Committee chaired by Mr. Yoshiaki Suzuki, the former SANE Chair, and Dr. Alex Held, CSIRO. It was initiated by the speech given by Dr. Steve Harvey who was deputy chief of ARRC. Dr. Alex Held, Co-Chair, introduced the outline of the space related research activities in Australia. The workshop consisted of 7 technical sessions and there were 40 presentations including 7 invited talks (Fig.2).

Prof. Chris Rizos, the president of University of New South Wales, chaired the satellite navigation session including invited presentation given by Prof. Peter Teunissen, Delft University of Technology, Netherlands, known as one of the leading researcher in the field of GNSS (Global Navigation Satellite Systems) carrier phase ambiguity estimation. Prof. Chris Rizos also gave an invited presentation about the future of GNSS including Europe Galileo system as well as GPS.

In the remote sensing session, radio astronomy developments in Australia and atmosphere observations by VHF radars were reported. Invited speaker, Prof. Rod Walker of the Australian Research Centre for Aerospace Automation introduced the future automation related to unmanned aerial vehicle in aviation industry. Prof. Kechu Yi, Xidian University, China, gave an invited talk about OFDM communication. An invited presentation on environmental monitoring using image processing given by Dr. Cindy Ong, CSIRO, caught participant's interests as well.

Fig.2 Technical session in ARRC.

3. Banquet and Technical Tour

The banquet started with the opening speech by Prof. Brett Nener, the Chair of local committee, University of Western Australia, at the Perth Sheraton hotel in downtown on the second day evening. More than 30 participants enjoyed talking friendly about not only technical discussion but also a lot of topics like life, nature, and the sightseeing in Perth.

On the third day, about 20 participants visited European Space Agency (ESA) Deep-space ground station in New Norcia, which is 140 kilometers north of Perth. The station is supporting deep-space satellite missions including Mars Express (Fig.3).

Fig.3 ESA Deep-space ground station and attendees.

4. Conclusions

A lot of fruitful discussions were made and good relations between the researchers were established in the workshop. We deeply appreciate ARRC, CSIRO, ESA, and local collaborators for their kind supports.

The next workshop for SANE (WSANE 2008) will be held on November 23-27th, 2008 at Ocean University of China, Qingdao, China, where the sailing competition in the 2008 Olympic Games will be held. The call for paper will be shown at http://www.ieice.org/cs/sane/. Why don't we get together in a beautiful seaside city, Qingdao?

Japan-Korea Joint Conference on Satellite Communications (JC-SAT 2007) Report

Hiroyasu Ishikawa
Secretary of the Satellite Telecommunications
Technical Group

Satellite Telecommunications Technical group of IEICE held a two-day conference, 2007 Joint Conference on Satellite Communications (JC-SAT 2007), with KOSST (Korea Society of Space Technology) on November 1-2, 2007 at Okinawa Seinen Kaikan, Naha, Japan. More than 50 researchers and engineers from Japan, Korea, and Taiwan participated in the conference. The two keynote speeches were delivered by the leading researchers from Japan and Korea, and 35 state-of-the-art technical papers were presented. The conference was successfully closed with the promise of JC-SAT2008 in Korea.

The Joint Conference on Satellite Communications has provided an opportunity to exchange technical information and the latest research activity between Japan and Korea researchers annually since 2000. Thus, JC-SAT 2007 was the eighth conference of the series.

In the opening session on November 1, 2007, Prof. Masahiro Umehira, Chief of the Satellite Telecommunications Technical Group, gave the opening address and Prof. Jae-Moung Kim, President of KOSST, presented the congratulatory addresses.

The first keynote address entitled "Current and Future Development of H-II A/B Launch Vehicles" was presented by Mr. Makoto Arita (JAXA). Mr. Arita introduced the history of H-IIA rocket and presented the current status of development of H-IIB rocket. The second keynote speech entitled "Standardization Trend of Satellite Mobile Broadcasting and Communications" was presented by Dr. Ho-Jin Lee (ETRI). Dr. Lee introduced the standardization activities on ITU-R, Mobile S2/DVB-RCS, ETSI S-UMTS and so on.

Thirty-five technical papers were presented in nine consecutive sessions; Application I, II, Coding Technology, Modem Technology, System Engineering I, II, Satellite System, Receiver Technology, and Antenna & Propagation. In particular, the number of papers from ETRI was more than 50% of Korean submissions, and impressed the aggressive activities on satellite communications to the participants.

In the Modem Technology, Receiver Technology, and Coding Technology sessions, state-of-the-art technologies such as OFDM for satellite communications, MIMO technique over satellite systems, and high-quality coding technologies for satellite communications were newly proposed. Further, new concept of satellite communications like satellite Wibro system, satellite and terrestrial convergence for

Fig. 1 JC-SAT2007 Registration Desk

Fig. 2 Mr. M. Arita (Upper) and Dr. H. J. Lee (Lower) in their keynote speech

internet, End-to-end QoS interworking between satellite and terrestrial networks were proposed in the Application, and System Engineering sessions. The evaluation results of ETS-VIII, DVB-RCS, ESV (earth stations onboard vessels), 10-cm class pico-satellites, COMS (communication, ocean, and meteorological satellite) were also presented in the Satellite System, and System Engineering sessions. Moreover, onboard beam forming network, array antenna technologies for satellite systems were presented in the Antenna & Propagation session.

All manuscripts of the technical reports from Japan, Korea, and Taiwan were compiled and issued as the proceedings of JC-SAT2007.

Both Japan and Korea organizing committee members agreed to organize the next conference, JC-SAT 2008, in Korea in November 2008. It was also confirmed that we will promote JC-SAT2008 to other Asian countries to increase the number of submission papers and participants. Details of JC-SAT 2008 will be announced in June 2008 on the home page of the satellite telecommunication technical group of IEICE.
(http://www.ieice.org/cs/sat/jp)

Report on 10th Asia-Pacific Network Operations and Management Symposium (APNOMS2007)

Hikaru Seshake*, Hiroshi Kuriyama**
*Secretary of the conference, NTT
**General Chair of the conference, NEC

1. Overview of APNOMS 2007

The 10th Asia-Pacific Network Operations and Management Symposium was held from October 10th to 12th, 2007 in Sapporo, Japan. APNOMS 2007 was organized by IEICE TM Committee and KICS KNOM with support from IEEE CNOM, IEEE APB, IEEE ComSoc Japan Chapter, TMF, and IFIP WG 6.6. The past activities of APNOMS can be found online [1]. APNOMS2007 entitled "Managing Next Generation Networks and Services" had four keynote speeches, one DEP session, two special sessions, four tutorial sessions, ten technical sessions and three short paper/poster sessions. Also, this year, the innovation sessions were organized to present and discuss ongoing research, work-in-progress ideas, practical solutions, experimental studies, and any topic of interest to the community. The exhibition program was held on the second and third days. 190 people from 14 countries participated.

2. Sessions and Activities

Four executives delivered keynote speeches. Photo 1 shows a snapshot of a keynote speech. Dr. Asatani from Japan talked about overview of an NGN and its inside issues. In the DEP session, four panelists discussed with the audience about the realization of a new network operation paradigm in the NGN era, see photo 2.

48 accepted papers out of 163 papers submitted were presented in 10 technical sessions. In the poster session, 30 papers were presented with poster-style presentations. Also, this year, the innovation sessions, in which 11 papers were selected, were organized.

In the exhibition program, 2 companies from Japan demonstrated their new operation schemes. As the social event, we had a banquet, see photo 3, with "Yosakoi-Soran" to show Japanese culture.

Lastly, APNOMS 2007 organizing committee selected top three papers presented in the technical session as "Best Paper Award" papers with the highest overall (paper + presentation) score.

3. Conclusion

APNOMS200 7 was a huge success. APNOMS2008 will be held in Beijing, China, in October 2008. Information will be available on the web soon.

4. References

http://www.apnoms.org/, Home page of APNOMS.

Photo 1 Keynote Speech

Photo 2 DEP Session

Photo 3 Banquet

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From Editor's Desk

The 2008 IEICE General Conference in Kitakyushu

The 2008 IEICE General Conference is approaching. This year, it will be held in the Kitakyushu Science and Research Park, Kitakyushu, from March 18 to 21. The General Conference is the biggest annual event of IEICE in which all four societies of IEICE, together with the Human Communications Group, run multitrack technical symposia. Last year, 2,886 papers were presented (1,376: Communications Society) and we expect more papers this time. Other than technical paper presentations, there will be a ceremony presenting the Young Researchers' Award. This is an award for young, promising researchers who presented outstanding papers either in the General Conference or Society Conference last year.

IEICE General Conference: http://www.ieice.org/eng/about/activities2.html

Kitakyushu Science and Research Park: http://www.ksrp.or.jp/english/index.html

Young Researchers' Award: http://www.ieice.org/eng/awards/provisions.html#05

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