IEICE Communications Society GLOBAL NEWSLETTER Vol. 32

Contents

○ Message from President
An Inaugural Message ........................................................................................................................... 2
  Junji Namiki

○ IEICE Activities NOW
Report on 26th IN/NS Research Workshop ........................................................................................... 3
  Takeshi Kawasaki, Takashi Ikebe, Kiyoshi Ueda, Takumi Miyoshi, George Kimura, Miki Yamamoto, Junya
  Akiba, Takahiro Tamura, Shinji Inoue, Naoki Imai, Hikaru Suzuki, Hiroyuki Morikawa

Annual Report of Technical Committee on Information Networks............................................................... 5
  Takahiro Tamura, Junya Akiba

○ IEICE Sponsored Conference Report
Report on the Forth International Symposium on Medical Information and
  Communication Technology(ISMICT2010) ............................................................................................. 6
  Huan-Bang Li

Report on the 14th International Conference on Optical Network
  Design and Modeling ......................................................................................................................... 8
  Nagao Ogino, Hajime Nakamura, Ken-ichi Kitayama

Report on the 21st International Teletraffic Congress
  Specialist Seminar .............................................................................................................................. 9
  Hajime Nakamura, Hiroshi Saito

○ IEICE Information

IEICE Overseas Membership Page ......................................................................................................... 10

IEICE Overseas Membership Application Form ..................................................................................... 11

From Editor’s Desk .................................................................................................................................. 12
An Inaugural Message

Junji NAMIKI
President, IEICE Communications Society

I am Junji NAMIKI that serves as the society chairman from May, 2010 by the result of 13000 society member election. Our society has initiated this academic society as the succession of research activities related to the communication infrastructure as the key theme in the history of Institute of Electronics, Information and Communication Engineers that exceeds 100 years, and the prompt shift to a society independent profit system, etc.

It is the still maximum society in four of academic society organization IEICE.

Being aware of heavy responsibility as chairman, I declare to complete my duty for achievement of election belief declaration by my best.

Well, recent net service (not “Communication service in the narrow sense”) spreads tremendously and no one can conceal surprising in prosperity. The field where the net service surpassed the real business services comes to stand out, and the amount of Commercial Message (CM) of the medium wave radio broadcasting has already surrendered the head position to Internet CM in the field of broadcasting. And, simultaneous delivery service of the medium wave radio broadcasting by the Internet (radiko.jp) starts further in the city part of Tokyo and Osaka, and a free charge and high performance service by Web that Google etc. draw out one after another achieves splendid advances. In contrast to net business briskness, it is actual situation to turn our eyes away to the decline of Japanese IT company. It brought a misfortune on “communication” that it has been considered to contribute to the net service most went off from the charm subject of the young students.

Now, all most universities’ capacity fulfillment rate of the department that names such as “Communication” and “Information” are tearfully driven in to the capacity crack for fear of the decrease of T-score (Standard Score) that shows the college administration difficulty low. If the society membership decrease doesn't stop, and either this decrease rate continues, it is a situation to be going to shortly the day when Status as the maximum society in IEICE is slipped out.

The contrast between net service in good condition and Japanese information-technology industry in single-minded decline. What does this contradiction between them mean?

Even if the telecommunications providers in the world have taken long time, the TV telephone has served so far of no spread and no development. One of venture companies “Skype” deployed just this service all over the world easily by use of the overlay system. We are able to see the appearance of the grandchild and the lover in the distance, and to enjoy it in free manner, in addition the image information of misjudged TV program by free YouTube.

What is the root of recent convenience that Web and P2P bring? The answer might be clear. A general people finds value and the business opportunity only to the convenience that those cooperation (interaction) produces though the individual element technology development like the transmission technique, the signal processing technology, the semiconductor technology, the artificial intelligent technique, the control technology, and the software technology, etc. are remarkable.

A lot of admirable our society leaders have been working out the member value improvement plan one after another at last few years. The typical measures are efforts to the issue of Global News Letter, Society Magazine, and paper online public opening, and the overseas member acquisition. However, it is necessary for us to get down to promote studied of “integration and servicing technology of the elemental technology” seriously in background of their steady, important measure, preparing for the new net service prosperity more and more. Though these themes have been researched by other academic societies mainly, our society has treated them secondarily and temporarily.

Now, how about preparing open preferential space for the service solution people who has not shown interest at all on our academic society and for other society? If it is said that financial matters are in fetters, the sub-society can be seen for making such a field be possible. We have fortunately enough funds on hand now, and, in addition, a large sum of surplus is just saved on head office special fund every year. There is no thing related to an inert austerity and the diminishing equilibrium to miss this important paradigm shift stage too much. This year of 2010, carry our society restructuring with new sense of values at any cost.

I promise 13000 Society members to carry out the reform resolutely by my best again as recommended for the chairman.
Report on 26th IN/NS Research Workshop

Takeshi Kawasaki†, Takashi Ikebe†, Kiyoshi Ueda†, Takumi Miyoshi††, George Kimura†††, Miki Yamamoto††††, Junya Akiba†, Takahiro Tamura†, Shinji Inoue††††, Naoki Imai†††††, Hikaru Suzuki††††††, and Hiroyuki Morikawa†††††††

†NTT Corp., ††Shibaura Inst. Tech., †††NTT West Corp., ††††Kansai Univ., †††††Hiroshima City Univ., ††††††KDDI R&D Laboratories Inc., †††††††NTT Communications Corp., and ††††††††The Univ. of Tokyo

1.Introduction
The 26th IN/NS Research Workshop took place in Miyazaki, Japan, March 3-4, 2010. The workshop was sponsored by the technical committee on Information Networks (IN) and Network Systems (NS) of the IEICE Communication Society. The workshop’s aim was to discuss the technical direction and research topics for future networks. It contained a consolidated session with the 21st International Teletraffic Congress Specialist Seminar (ITC-SS21). A record showing of 157 participants underscored the success of the workshop. The overall theme of the workshop was “Beyond the Galapagos - R&D strategy from the viewpoint of Japanese potential.” The workshop featured invited talks, overviews of the talks, and a panel discussion.

Fig.1 Overview (Workshop).

2.Invited talks
The general chair of the workshop, Professor Hiroyuki Morikawa (The Univ. of Tokyo), invited nine distinguished experts involved in Teletraffic and R&D strategy. These speakers addressed new challenges in issues of R&D strategy from the viewpoint of Japanese potential from political and industrial perspectives. Figure 2 shows photographs of the speakers.

Fig. 2 Invited speakers.

- Dr. Akira Takahashi (NTT Corp.) presented QoE assessment and monitoring of IPTV.
- Dr. Satoshi Miyaji (KDDI Corp.) discussed the trends of video distribution services and related standardization activities.
- Mr. Jun Yamada (Qualcomm Japan Inc.) expressed an opinion that Japanese companies should fuss over details.
- Mr. Yoshitake Kunito (Sony Corp.) presented an analysis of the Japanese manufacturing industry and technological development. He proposed that Japanese companies should attach importance to “what” instead of “how”.

A. Takahashi (NTT Corp.)
S. Miyaji (KDDI Corp.)
J. Yamada (Qualcomm Japan Inc.)
Y. Kunito (Sony Corp.)
M. Kusunoki (Microsoft Inc.)
Y. Inoue (TTC)
S. Kita (NRI)
M. Fujioka (Nippon Encson K.K.)
H. Onaga (The Univ. of Tokyo)
・Mr. Masanori Kusunoki (Microsoft Inc.) addressed the technical issues of the Galapagos phenomenon from the viewpoint of software development.
・Dr. Yuji Inoue (TTC) expressed an opinion on the desirable relationship between Japan and other Asian countries to succeed in the global market.
・Mr. Syunichi Kita (NRI) presented the strategy of development beyond the Galapagos; an escape from the Galapagos.
・Dr. Masanobu Fujioka (Nippon Ericsson K.K.) showed the importance of the international standard and development targeting the global market.

3. Panel discussion
As the chairperson, Professor Morikawa organized the panel discussion. Project Associate Professor Hisashi Onaga presented information and communications policy for Japanese R&D strategy. Professor Morikawa and the six speakers (Mr. Kunito, Mr. Kusunoki, Dr. Inoue, Mr. Kita, Dr. Fujioka, and Project Associate Professor Onaga) took their seats as panelists, and the audience filled the hall. First, Professor Morikawa gave the theme of the discussion to the panelists: “What is Beyond the Galapagos - R&D strategy from the viewpoint of Japanese potential -.” The panelists then expressed their opinions from their own perspectives, and actively discussed the issues involved. In addition, they answered various questions from the audience. The discussion showed that there is increasing interest in the R&D strategy of the manufacturing industry.

4. Conclusion
This year’s workshop invited key persons to speak on the R&D strategy of the manufacturing industry from the viewpoint of Japanese potential. We believe that the presentations given by the invited speakers and the panel discussion provided fruitful insight into research and development.

The technical committees on NS and IN plan to hold next year’s workshop in March 2011. Finally, we would like to express our gratitude to the workshop committee members, particularly to, T. Usui (Oki), N Saitou (NEC), S. Tanaka (Toshiba), S. Imai (Fujitsu) and M. Shimizu (Hitachi) who made this workshop possible.
Annual Report of Technical Committee on Information Networks

Takahiro Tamura, Junya Akiba, NTT Corporation.

1. Introduction

The technical committee on IN (Information Networks) is a technical committee of the Communications Society of the IEICE [1]. The IN addresses a broad spectrum of issues associated with information networks and provides a forum for researchers and engineers to discuss various research and development topics. The chairman is Professor Hiroyuki Morikawa of the Univ. of Tokyo. The vice chairman is Mr. Hikaru Suzuki of NTT Communications Corporation. The secretaries are Mr. Junya Akiba of NTT Corporation and Dr. Naoki Imai of KDDI R&D Labs. Inc. The assistant secretaries are Mr. Takahiro Tamura of NTT Corporation and Assistant Professor Shinji Inoue of Hiroshima City University. This document presents the IN’s annual report for activities from May 2009 to Mar 2010.

2. IN Activities

The IN holds ten two-days technical meetings and a workshop every year. Many researchers participate in the meetings and report their latest technical research and development results. The number of technical reports is one of the largest among all technical committees of the Communications Society of the IEICE. Some meetings are co-organized with other technical committees. The venues and the main topics of each meeting are shown in Table 1.

Each technical report is submitted in a paper and published as a Technical Report of the IEICE. Authors of selected papers have received Information Networks Research Awards the ceremony of which is held in March every year. This year, the following 4 excellent papers were selected from 215 papers.

- Keisuke Ishibashi, Tsyosyo Toyono, Kazumichi Sato, Meidai Saito, “Monitoring DNS Cache Poisoning Attacks”
- Haruno Kataoka, Masashi Toyama, Yoshiko Sueda, Osamu Mizuno, Kenji Takahashi, “Contents collaborative control method in the SIP-Web session linkage system”
- Ahmad Kamil Abdul Hamid, Yoshihiro Kawahara, Tohru Asami, “Cache Design for RESTful Active Proxy for Efficient SNMP Monitoring”

Reference

Report on the Forth International Symposium on Medical Information and Communication Technology (ISMICT2010)

Huan-Bang Li
National Institute of Information and Communications Technology (NICT)

1. Introduction
The Forth International Symposium on Medical Information and Communication Technology (ISMICT2010) was held in Taipei, Taiwan on March 22 through 25, 2010. The focus of ISMICT2010 is on “Intelligent Mobile Computing for Better Medical Services”. The event is sponsored by a number of universities and organizations. IEICE Communication Society is one of the technical sponsors. This report provides a brief overview on the event with background knowledge.

2. Background
Increase of aging population and demand for high quality of medical and healthcare services motivate the research and development (R&D) activities on the related technologies. In 2006, IEICE Communication Society approved a time-limited Technical Committee on Medical Information and Communication Technology (TC-MICT) [1], which can be regarded as an important effort from academy to promoting MICT.

One main characteristics of TC-MICT is the cooperation among professors, researchers, as well as engineers from both ICT and medical societies. TC-MICT has been carrying out a series of academic activities including organization of regular domestic workshops, edition of special sections on IEICE Transactions, and organization of special sessions at IEICE General Conferences and Society Conferences, etc. International Symposium on Medical Information and Communication Technology (ISMICT) is one of the main events technically sponsored by TC-MICT.

The first event, ISMICT2006, was held in Yokohama, Japan on December 1-2, 2006 with members from TC-MICT as main local organizers. ISMICT2007 was held in Oulu, Finland on December 12-13 with Oulu University as the local host. The third event was held in Montreal, Canada on February 24-26, 2009, although it was originally scheduled in December 2008. The local host of ISMICT2009 is McGill University Health Center. The delay of the third event is a direct result of the world economic shrink during that period. ISMICT2010 is the fourth event in this series. The local hosts include National Chiao Tung University and China Medical University. This combination of organizers reflects the principle of the symposium very well to get ICT researchers and engineers together with medicine professionals.

3. Main topics in ISMICT2010
The organizers successfully invited many famous figures to deliver plenary speech from different aspects. These plenary speeches well addressed main topics related to ISMICT. Titles of total 12 plenary speeches delivered at ISMICT2010 are as follows.

- What of the medical information do we really need from communication technology — A cardiologist's view
- Standardization of body area networks
- Body area networks — application, market and technology
- Standard and business of wireless body area network(BAN) and further research for ubiquitous medical healthcare based on advanced ICT
- Global personal health record
- Personal health record
- Wearable body area network for healthcare applications
- Application of wireless EKG monitor in telecare
- The application of telecare for patients with cardiovascular disease
- Current development of wireless EKG monitor in Taiwan
- You can run but you can not hide: methodology and applications of an accurate RFID-based indoor location tracking system
- Opportunities and challenges in adoption of electronic medical records in Taiwan

Figure 1   Panel discussion
(The first on the left is co-chair, Prof. Ryuji Kohno, The second from the right is the author)
As can be seen from the above plenary speeches, body area network (BAN) was a main focus on the symposium. A panel discussion was held to discuss “Technology Solution for Body Area Network”. Steering committee co-chair and general co-chair, Prof. Ryuji Kohno coordinated the panel as shown in Figure 1. The author also joined the panel as a speaker.

There was also a demonstration entitled “ICT in ECG applications - Demo Show” organized by general co-chair, Prof. Chen-Yi Lee as shown in Figure 2. This demonstration showed a prototype ECG delivery network system developed by National Chiao Tung University, Taiwan.

Besides the above topics, two separated tracks were organized for presentations of technical papers. Main categories of the technical presentations are as follows.

- ICT for healthcare and safety
- New technology for WBAN
- Wireless WBAN channel models
- Bio-informatics
- Science & technologies for healthcare and medicine
- WBAN transport protocol for biomedical information
- Telemedicine

One can find more detail about the technical program from the WEB of the symposium [2].

4. Statistics

As summarized by the local organizers, there were 85 registered participants in ISMICT2010. The author noticed that many local university students were around the symposium site and some of them acted as organizing staffs. Therefore, the number of attendees should be around 100 in total. The participants hold a broad geographical distribution including Japan, South Korea, Finland, Taiwan, United States, Australia, Sri Lanka, Belgium, Greece, Poland, Canada, India, and Belize. Total 46 technical papers were accepted and presented at the symposium.

Some very important figures from Taiwan attended the symposium. A minister without portfolio delivered a welcome speech. President of National Chiao Tung University and Chairman of China Medical University Hospital also attended the opening session and some of the technical sessions.

5. Connecting to the Next

ISMICT2010 was held in Grand Hyatt Taipei Hotel, which is next to the famous Taipei 101 finance tower. Some of the participants may have taken the chance to experience the record height. During the symposium, the steering committee members held a meeting to evaluate the next host for the symposium. Several proposals were submitted to bid for ISMICT2011. A decision will be made and announced soon.

6. Reference

1. Introduction
The 14th International Conference on Optical Network Design and Modeling (ONDM 2010) was held from January 31st to February 3rd, 2010 in Kyoto Institute of Technology, Japan. ONDM 2010 was co-sponsored by International Federation for Information Processing (IFIP) Technical Committee 6 (TC6), Information Processing Society of Japan (IPSJ) and Kyoto Institute of Technology, and was technically co-sponsored by IPSJ SIG-IoT, IEICE Communications Society, IEICE Technical Committee on Photonic Network, IEEE Communications Society and Photonic Internet Forum. About 100 researchers attended mainly from Italy, USA, France, UK, Spain, Denmark, Belgium, Australia, Canada, Germany and Japan. ONDM 2010 first held in other than Europe was the fruit of the successful invitation activity for a long term.

2. ONDM 2010 program
ONDM is a relatively small-scale but unique annual international conference focusing on cutting-edge and state-of-the-art research in optical networking and newly emerging areas. ONDM 2010 consisted of 2 workshops, 2 keynote speeches and 8 serial technical sessions including a poster session. The exhibition program which 10 companies participated in was also held simultaneously.

Two workshops were held in the afternoon of the first day. The first one was entitled "NGN current situation, capabilities and expectations," and 6 speakers discussed on the NGN from various viewpoints. The second one was entitled "FTTH today and tomorrow," and 5 speakers introduced the progress of FTTH deployment in their countries.

The technical program consisted of 10 invited papers, 23 oral papers and 12 poster papers involving 16 papers presented from Japan. The keywords in the technical sessions were "Optical network performance and monitoring," "Energy efficiency in optical networks," "Optical network control and management," "Optical network planning and migration," "Optical access networks designs and protocols," "OPS and OBS network design" and "Optical grids and parallel networking," respectively.

3. Best paper award
ONDM 2010 Best Paper Award was certified to Ankitkumar Patel, Chengyi Gao, Jason Jue, Xi Wang, Oiong Zhang, Paparao Palacharla and Takao Naito for their paper entitled “Traffic Grooming and Regenerator Placement in Impairment-Aware Optical WDM Networks". Moreover, two students were awarded the Travel Grant for their excellent papers.

4. Summary
ONDM 2010 was very successful and fruitful for encouraging the research activity in the field of optical network design and modeling. The next ONDM will be held in Bologna, Italy.

5. Reference
Report on the 21st International Teletraffic Congress Specialist Seminar

Hajime Nakamura* and Hiroshi Saito**
*Organizing Committee Secretary, KDDI R&D Labs.
**Organizing Committee Chair, NTT

1. Introduction
The 21st International Teletraffic Congress (ITC) Specialist Seminar [1], sponsored by IEICE Communications Society and technically co-sponsored by Technical Committees on Information Networks (IN) and Network Systems (NS), were held on March 2nd and 3rd at Phoenix Seagaia Resort in Miyazaki.

The ITC represents a wide community of researchers and practitioners and is regularly organizing events like Congresses, Specialist Seminars and Workshops in order to discuss the latest changes in the modeling, design and performance of communication systems, networks and services [2]. The ITC Specialist Seminars are regularly organized on specific themes which are usually hot topic issues. Their purpose is to gather more frequently top level experts for in-depth discussion on key issues relevant to the chosen themes. The theme of the 21 ITC Specialist Seminar is “Multimedia Applications - Traffic, Performance and QoE”.

2. Program
To support the emerging multimedia/video services that are accessed from diverse devices over various networks, it is crucial to better understand the fundamental characteristics of services and the underlying systems; e.g., characterizing service workload and modeling/evaluating system performance. It is also crucial to address how we can monitor and improve end-to-end QoS and user QoE (Quality of Experience) in these services. The primary objectives of this seminar are to identify early and future traffic and performance issues and to develop methodologies that address various aspects of traffic and performance in multimedia applications and video services.

Twenty-seven people including speakers from Germany and Sweden participated in the seminar. It started with a keynote speech titled "Future TV services conveying an enhanced sense of reality" by Mr. Eisuke Nakasu, NHK. Mr. Nakasu presented a trend of TV services and a direction of technology pursuing reality. Twelve papers were presented and discussed in four technical sessions focusing on “QoE”, “traffic modeling”, “P2P” and “new applications and QoS”, respectively. The presented papers covers technical topics such as congestion control, traffic measurement, performance measurement, QoS management, traffic forecasting and network design. Closing is a consolidated session with the 26th IN/NS Research Workshop. In the session, Mr. Akira Takahashi, NTT, and Mr. Satoshi Miyaji, KDDI, made presentations titled "QoE assessment and monitoring of IPTV" and "Trends on video distribution services and related standardization activities", respectively, as invited speakers. There were around one hundred attendees in this session.

3. Summary
Through the keynote, the invited talks, the technical paper presentations and discussion, the participants exchanged their latest information on research activities and enhanced their expertise in the target areas of this seminar. The 22nd International Teletraffic Congress will take place on 7-9 September 2010 in Amsterdam, Netherlands [3].

Finally we would like to express our appreciation to the participants, the organizing committee members, the TPC members and particularly to J. Akiba (NTT), T. Mori (NTT), M. Kobayashi (NTT) and H. Koto (KDDI R&D Labs.) for their every effort in organization of this seminar.

4. Reference

Fig.1 Opening Speech by Organizing Committee Chair
Fig.2 Banquet
(Photos by Dr. Markus Fiedler)
Membership for Overseas Candidates: Overseas Members may opt to join one IEICE Society of their choice and may request to receive the IEICE Transactions of online version of that Society. Furthermore, Overseas Members may request to receive the IEICE Journal (written in Japanese) and Transactions (published in paper) at an additional cost. Similar services are available to Overseas Student Members. Voting privileges in the IEICE election do not apply to Overseas Members. Note that the Overseas Membership applies only to candidates who reside outside of Japan and who have citizenship in countries other than Japan.

OMDP (Overseas Membership Development Program): OMDP is provided for candidates from countries/areas in Asia (except Republic of Korea and Taiwan), Africa, Central America, and South America. This program is designed so that IEICE can contribute to and support the progress of science and technology throughout the world. Scientists and engineers in these countries/areas are encouraged to apply to the program.

**IEICE Societies and Publications**

<table>
<thead>
<tr>
<th>Society</th>
<th>Transactions</th>
<th>Editorial Subject Indexes</th>
</tr>
</thead>
</table>

**Journal of IEICE (written in Japanese only)**

**Membership Charges (http://www.ieice.org/eng/member/OM-appli.html#c)**

Basic Membership Charge is as follows. It will change the term when you join IEICE. Please refer to the above website.

**Basic Membership Charge (UNIT : Japanese YEN)**

<table>
<thead>
<tr>
<th>Service coverage for overseas members</th>
<th>Admission charge</th>
<th>Registration of the first society (includes its online version transactions)</th>
<th>Registration of additional societies (includes its online version transactions)</th>
<th>Journal (written in Japanese)</th>
<th>Transactions (written in Japanese or in English)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member (overseas)</td>
<td>1,400</td>
<td>7,000</td>
<td>3,500 / 1society</td>
<td>6,000</td>
<td>4,000 / 10,000</td>
</tr>
<tr>
<td>Member (overseas) with OMDP®</td>
<td>1,000</td>
<td>5,000</td>
<td>3,000 / 1society</td>
<td>5,000</td>
<td>4,000 / 10,000</td>
</tr>
<tr>
<td>Student member (overseas)</td>
<td>–</td>
<td>2,000</td>
<td>2,000 / 1society</td>
<td>6,000</td>
<td>4,000 / 10,000</td>
</tr>
<tr>
<td>Student member (overseas) with OMDP®</td>
<td>–</td>
<td>1,000</td>
<td>1,500 / 1society</td>
<td>5,000</td>
<td>4,000 / 10,000</td>
</tr>
</tbody>
</table>

**NOTE**

1. You need to choose one Society, and you can subscribe Transactions online of your registered society.
2. If you want to register other Societies and Transaction of web version, please check "Additional Society registration".
3. If you want to subscribe to Transaction of EA and EB, please check Society Registration as A and B. Your membership fee amounts to 7,000+3,000 yen / 5,000+4,500 yen.
4. You need to choose one Society, and you can subscribe Transactions online of your registered society.
5. If you want to subscribe to Transaction of EA, please check Society Registration as A. Your membership fee amounts to 7,000+4,000 yen / 5,000+4,500 yen.

**Optional Rapid Mailing Service**

Surface mail charge is included in the membership charge. Optional rapid mailing service is available by air mail or surface air lifted (SAL) mail. The additional charge per year periodical depends on the mailing address, as shown in the right table.

**Areas**

<table>
<thead>
<tr>
<th>Air mail</th>
<th>SAL mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia, Guam, Midway islands</td>
<td>5,600 yen</td>
</tr>
<tr>
<td>Oceania, Near &amp; Middle East, North &amp; Central America, Europe</td>
<td>7,800 yen</td>
</tr>
<tr>
<td>Africa, South America</td>
<td>11,000 yen</td>
</tr>
</tbody>
</table>

Please contact the IEICE Membership Section: E-mail: member@ieice.org FAX: +81 3 3433 6659
IEICE Overseas Membership Application Form

URL: http://www.ieice.org/eng/member/OM-appli.html  E-mail: member@ieice.org  FAX: +81-3-3433-6659

**Please type or print in English. The deadline for submitting application form is the 1st day of every month.**

**Personal Information**

**Full name:**
- First name
- Middle name
- Last name

- Male
- Female

- Prof.
- Dr.
- Mr.
- Ms.

- Place of birth:
- Date of birth: Day Month Year

**Mailing Address**
- Home
- Office

- Name of Company/School/College
- Department/Section
- Street
- City
- State/Province
- Postal code
- Country
- TEL
- FAX
- E-mail

**Academic Background**

- The highest academic degree: Ph.D.
- Masters
- Bachelors
- Others:

- University/college/school of the highest academic degree
- Month & year of graduation

(For Student Member)

- Academic degree which will be conferred on you
- Month & year when the degree will be conferred on you

**Application Information**

**Membership:**
- I want to apply for the following membership (check one item!)
  - Member (Overseas)
  - Student Member (Overseas)
  - OMDP (Overseas Membership Development Program)

**Society registration (Membership fee includes one Society of Transaction of Online version.):**
- A: Engineering Sciences
- B: Communications
- C: Electronics
- D: Information and Systems

**Additional Society (optional):**
- A: Engineering Sciences
- B: Communications
- C: Electronics
- D: Information and Systems

**Additional Transactions of paper version (optional):**
- EA: Fundamentals
- EB: Communications
- EC: Electronics
- ED: Information and Systems

**Journal subscription (optional):**
- A: Fundamentals (Japanese)
- B: Communications (Japanese)
- C: Electronics (Japanese)
- D: Information and Systems (Japanese)

**Remittance**

- Admission charge: ¥
- Annual charge: ¥
- Additional Society (optional): ¥
- Additional Transactions (optional): ¥
- Journal subscription (optional): ¥
- Mailing option: Air mail: ¥
- SAL mail: ¥
- Total: ¥

- Credit Card:
  - UC
  - Master Card
  - VISA
  - JCB
  - American Express

- Card number:
- Expiry date: Year / Month
- Credit Card Holder:
- Signature:

**Endorsement**

- Endorsements by one IEICE Member application is required. If it is difficult to find endorsers, please contact the IEICE Membership Activities Section by sending this sheet, and we will help you.

- I recommend this applicant for IEICE membership.
From Editor’s Desk

● Job Hunting Activities

Students in Japanese graduate schools are experiencing harder time than ever in their job hunting. Since most research and development positions in the industry are occupied on a first-come first-serve basis by the prearrangement called job matching, some students who have involved too much in their university research and delayed their “research for job hunting” tend to suffer the loss of job opportunities. On the other hand, some students who desperately seek for security may suspend their research activity too early. Some of them may obtain informal assurances of employment from an unnecessarily large number of companies as an outcome of their job-hunting research. Now it’s university professors’ turn to have hard time motivating exhausted students to continue their university research after a long break.

By the time this Global Newsletter is available, the Board of Directors of our society will have been reorganized. Please look forward to next coming Global Newsletters!

IEICE Global News Letter Editorial Staff

Editorial Staffs of this issue
No special order is observed

Hideki OCHIAI
Yokohama National University
Division of Physics, Electrical and Computer Engineering
Director, Planning and Member Activities, IEICE Communications Society

Takeshi YASUIE
Fujitsu Laboratories Ltd.
Research Center for Cloud Computing
Director, Planning and Member Activities, IEICE Communications Society

Yukihiro OKUMURA
NTT DOCOMO, Inc.
Research Laboratories
Director, Planning and Member Activities, IEICE Communications Society

Koji WAKAYAMA
Hitachi, Ltd.
Central Research Laboratory
Director, Planning and Member Activities, IEICE Communications Society
Call for Papers

Special Section on Extremely Advanced Optical Transmission Technologies and Transmission Optical Fiber Technologies towards Exabit Era

The IEICE Transactions on Communications announces that it will publish a special section entitled "Special Section on Extremely Advanced Optical Transmission Technologies and Transmission Optical Fiber Technologies towards Exabit Era" (February 2011).

Over the last twenty years, the optical communication technologies have seen an increase in transmission capacity per fiber by three orders of magnitude, achieving several Tbit/s transmission. If the data traffic continues to increase at a rate of 40 \%-70 \% per year, a capacity increase by three to five orders of magnitude is anticipated over the next twenty years. This means that in twenty years, the backbone transmission capacity should support well over Pbit/s per fiber and the core network should support Ebit/s throughput, where at home Tbit/s access handling 3D super-high definition stream videos will be a reality. The present optical technologies primarily based on WDM, however, have begun to see the ultimate physical limitations of the present systems, i.e., the transmission capacity imposed by Shannon’s limit, the amount of optical power (bit/s rate) that can be transmitted safely in transmission optical fibers, the optical bandwidth for optical amplification, and the capacity of optical submarine cables systems now limited by the electrical power supplied to the optical amplifier repeaters. In order to go beyond these limits and to develop break-through technologies that will enable this dramatic leap, totally new multiplexing schemes beyond TDM/WDM, novel transmission optical fibers handling well over Pbit/s capacity as well as far-advanced optical submarine cables systems should be developed. Based upon the above background, a special section is being planned (scheduled to appear in the February 2011 issue) to further promote research and development of future “extremely advanced optical transmission technologies”.

1. Scope

This special section aims at timely disseminating research activities in these areas. Topics include, but are not limited to:

- Novel transmission optical fibers towards Pbit/s transmission and beyond including photonic crystal fibers, photonic bandgap fibers, multi-core fibers, large-mode area fibers, multi-mode fibers etc.
- Advanced optical connectors, splicing and cabling technologies for the above novel transmission optical fibers
- Optical fiber fuse phenomenon, its mechanisms and halting/detection schemes
- Advanced multi-level modulation schemes (QAM, OFDM etc.) and demonstrations
- Novel multiplexing technologies such as SDM (Space-division Multiplexing), MDM (Mode-division Multiplexing), MIMO processing, etc.
- Novel optical signal processing schemes in the temporal, frequency and spatial domains
- Ultra-high capacity transmission experiments
- Novel optical amplifiers including broadband optical amplifiers, multi-core fiber amplifiers, parametric amplifiers, Raman amplifiers, etc.
- Novel optical node architectures towards Ebit/s throughput employing novel optical fibers and multiplexing schemes
- Advanced optical submarine cable systems and related technologies

2. Submission Instructions

The standard number of pages is eight for a PAPER and two for a LETTER. The maximum number of pages for the initial submission of a LETTER is four. The page charges are considerably higher for extra pages. Manuscripts should be prepared according to the guidelines in the “Information for Authors”. The latest version is available at the web site, http://www.ieice.org/eng/shiori/mokuji_cs.html. The term for revising the manuscript after acknowledgement of conditional acceptance for this special section could be shorter than that for regular issues (60 days) because of the tight review schedule.

This special section will accept papers only by electronic submission. Prospective authors are requested to follow carefully the submission process described below.

1. Submit a manuscript and electronic source files (TeX/Word files, figures, authors’ photos and biography) via the IEICE Web site https://review.ieice.org/regist_e.aspx by June 30, 2010. Authors should choose the [Special-EB] Extremely Advanced Optical Transmission Technologies and Transmission Optical Fiber Technologies towards Exabit Era as a "Type of Issue (Section)/Category of Transactions" on the online screen. Do not choose [Regular-EB].

2. Send “Copyright Transfer and Page Charge Agreement” and “Confirmation Sheet of Manuscript Registration” by E-mail, FAX or postal mail to the following address (guest editor of the special section) by the above due date. We may withdraw the submission if these documents have not been received by the due date, even if the manuscript has been received by electronic submission. For additional guidelines on manuscript preparation, please visit http://www.ieice.org/eng/shiori/mokuji_cs.html

Send the above documents to:

Toshio Morioka
NTT Network Innovation Laboratories
Address: 1-1 Hikar-no-oka Yokosuka-Shi Kanagawa 239-0847 Japan
Tel: +81-46 859 2094, Fax: +81-46 859 5541, Email: ocs-exa2011@mail.ieice.org

3. Special Section Editorial Committee

Guest Editor-in-Chief: Masataka Nakazawa (Tohoku University)

Guest Editors: Toshio Morioka (NTT), Masatoshi Suzuki (KDDI R&D Labs.), Norio Kashima (Shibaura Institute of Technology)

Guest Associate Editors: Yoshinari Awaji (NICT), Masaharu Ohashi (Osaka Prefecture University), Masanori Koshiha (Hokkaido University), Kazuhide Nakajima (NTT), Shu Namiki (AIST), Kiyoshi Fukuchi (NEC), Shoichiro Matsuo (Fujikura), Itsuro Morita (KDDI R&D Labs.), Kazushige Yonenaga (NTT), Kazi Sarwar. Abedin (NICT)

* Please note that if the submitted paper is accepted, all authors, including authors of invited papers, are requested to pay for the page charges covering partial cost of publications. Authors will receive 50 reprints.

* At least one of the authors must be an IEICE member when the manuscript is submitted for review. Invited papers are an exception. We recommend that authors unaffiliated with IEICE apply for membership. For membership applications, please visit http://www.ieice.org/eng/member/OM-appli.html
Call for Papers

---Special Section on Photonic Network Technologies in Terabit Network Era---

The IEICE Transactions on Communications announces that it will publish a special section entitled “Special Section on Photonic Network Technologies in Terabit Network Era” in April 2011.

Since large-capacity stream transmissions for 4-K digital cinemas and high-definition video applications, and large-size file transmissions for P2P applications are widely used. Photonic networking technologies are required to support high-speed, cost-effective, flexible, scalable, reliable, and robust communication network infrastructures. To offer a terabit communication environment, a new scenario to crossly interact with upper layers is also required. To achieve these requirements, research and development on photonic networking technologies including their standardizations are extensively performed. Because of such reasons, a special section is being planned (scheduled to appear in the April 2011 issue) to further promote research and development of future photonic network technologies, which covers areas such as network devices, transport networking, and applications.

1. Scope
This special section aims at timely dissemination of research in these areas. Possible topics include, but are not limited to:

- Photonic network architecture
  - New-generation transport network, optical network test bed, inter-operability test, integration of electrical and optical technologies, low-power network
- Photonic network control and management
  - Traffic engineering, path computation element, protocols
- Photonic network system
  - Optical packet/burst/path switching, optical multiplexing, optical label processing, optical access
- Photonic network application
  - Grid computing, high-speed transmission protocol
- Photonic network device
  - Optical switch, optical signal processing, optical memory

2. Submission Instructions
The standard number of pages is 8 for a PAPER and 2 for a LETTER. The maximum number of pages for the initial submission of a LETTER is 4. The page charges are considerably higher for extra pages. Manuscripts should be prepared according to the guideline in the “Information for Authors”. The latest version is available at the web site, http://www.ieice.org/eng/shiori/mokuji_cs.html. The term for revising the manuscript after acknowledgement of conditional acceptance for this special section is 30 days.

This special section will accept papers only by electronic submission. Prospective authors are requested to follow carefully the submission process described below:

1. Submit a manuscript and electronic source files (TeX/Word files, figures, authors’ photos and biography) for publishing using the IEICE Web site https://review.ieice.org/regist_e.aspx by August 31, 2010). Authors should choose the [Special-EB] Photonic Network Technologies in Terabit Network Era as a “Type of Issue (Section)/Category of Transactions” on the online screen. Do not choose [Regular-EB].

2. Send “Copyright Transfer and Page Charge Agreement” and “Confirmation Sheet of Manuscript Registration” by E-mail, FAX or postal mail to the following address (guest editor of the special section) by the above due date. There is a possibility that we shall withdraw the manuscript without receiving them by the due date, even if we have received the manuscript by electronic submission. For additional guidelines on manuscript preparation, please visit the web-page: http://www.ieice.org/eng/shiori/mokuji_cs.html

Send the above documents to: Eiji Oki
Dept. of Information and Communication Engineering
The University of Electro-Communications
Address: 1-5-1 Chofugaoka, Chofu, Tokyo 182-8585, Japan
Tel: +81-42-443-5195, Fax: +81-42-443-5926, Email: pn-tera@ieice.org

3. Special Section Editorial Committee
Guest Editor-in-Chief: Satoru Okamoto (Keio Univ.)
Guest Editors: Eiji Oki (Univ. Electro-Communications), Hajime Nakamura (KDDI R&D)
Guest Associate Editors: Soichiro Araki (NEC), Tomohiro Otani (KDDI), Akira Okada (NTT), Kayo Ogawa (Japan Woman’s Univ.), Toshikazu Sakano (NTT), Shiochiyo Seno (Mitsubishi Electric), Takuo Tanemura (Univ. Tokyo), Hiroaki Harai (NICT), Tetsuyasu Mizumoto (Tokyo Institute of Technology)

* Please note that if accepted, all authors, including authors of invited papers, are requested to pay for the page charges covering partial cost of publications. Authors will receive 50 copies of reprints.
* At least one of the authors must be an IEICE member when the manuscript is submitted for review. Invited papers are an exception. We recommend that authors unaffiliated with IEICE apply for membership. For membership applications, please visit the web-page, http://www.ieice.org/eng/member/OM-appli.html
JCN invites submission of high-quality papers in the areas of Communication Theory and Systems, Wireless Communications, and Networks and Services.

JCN is an all-electronic processing journal that stresses fast turnaround together with expert peer reviewing. Typically, a manuscript, if accepted after one round of review, will be ready for publication in about 6 months after submission, with 2-3 months additionally required for each additional round of review.

A prospective author should submit the manuscript for publication consideration in electronic file (LaTeX or MS Word) via JCN website (http://jcn.or.kr) to an appropriate Division Editor (for regular papers) or to any Guest Editor of an appropriate Special Issue. (Special Issues may include regular papers to avoid unnecessary publication delays.)

JCN is available in both paper and electronic formats, with the latter available in the JCN Digital Library in the JCN Web site, http://jcn.or.kr. For further details on paper submission and subscription, please visit the JCN Web site.

Low subscription rates are offered to members of KICS and its Sister Societies, including ComSoc, CIC, and IEICE, and to libraries. Application forms are available in the JCN web site.

Ezio Biglieri, Universitat Pompeu Fabra, e.biglieri@ieee.org
Dong In Kim, Sungkyunkwan Univ., dikim@ee.skku.ac.kr, CoEIC
Byeong Gi Lee, Seoul Nat'l Univ., EIC-Emeritus
Stephen B. Weinstein, CTTC Group
Raymond Pickholtz, George Washington Univ.
Mischa Schwartz, Columbia Univ.
Desmond Taylor, Univ. of Canterbury
Davide Grillo, Alcatel Italia
Henning Schulzrinne, Columbia Univ.

Forthcoming SPECIAL ISSUES

August 2010 (submission due: over)
Special issue on Sparsity in Communications

December 2010 (submission due: over)
Special issue on Recent Advances in Satellite and Space Communications

April 2011 (submission due: September 30, 2010)
Special issue on Emerging Technologies and Applications of Wireless Communication in Healthcare

For more information, please visit the JCN home page, http://jcn.or.kr

TABLE of CONTENTS of APRIL 2010 ISSUE

G. P. Fettweis, K.-C. Chen, and R. Tafazolli, Editorial - Special Issue on Green Radio: Energy Efficiency in Wireless Networks
C. Bai and W. E. Stark, Minimum Energy-per-Bit Wireless MultiHop Networks with Spatial Reuse
C. Comaniciu, N. B. Mandayam, H. V. Poor, and J.-M. Gorce, An Auctioning Mechanism for Green Radio
N. Gautam and J.-Y. Pyun, Distance Aware Intelligent Clustering Protocol for Wireless Sensor Networks
M. Nicoloso, C. Hua, K. C. Beb, S. Armour, and A. Duflois, MIMO Techniques for Green Radio Guaranteeing QoS
P. Serrano, M. Hellek, and A. Ribeiro, On the Trade-Offs between Throughput Maximization and Energy Consumption Minimization in IEEE 802.11 WLANs
N. Michael, C. Moe, A. P. Viswanath, and J. Palicot, Area Power Trade-Offs for Flexible Filtering in Green Radios
M. Kwon and S. Fabian, Synergy: An Overlays Internetworking Architecture and Implementation
K. Xu, J. Chamursbekar, and Z.-L. Zhang, Principal Component Analysis of IGP Update Streams
Special Rates for Members of
The Institute of Electronics, Information and
Communication Engineers (IEICE-CS)

IEEE Communications
provides the latest information on all
communications technologies,
considered by many subscribers
as their

"single most important
source of communications
information"

IEEE COMMUNICATIONS SOCIETY PUBLICATIONS SUBSCRIPTION

<table>
<thead>
<tr>
<th>Publication</th>
<th>2010 Price</th>
<th>2010 Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEEE Communications Magazine</td>
<td>$53</td>
<td>$90</td>
</tr>
<tr>
<td>12/yr, Pub ID: PER802-SEP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IEEE Network:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Magazine of Global Internetworking</td>
<td>$62</td>
<td>$90</td>
</tr>
<tr>
<td>6/yr, Pub ID: PER171-SEP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IEEE Wireless Communications Magazine</td>
<td>$62</td>
<td>$87</td>
</tr>
<tr>
<td>6/yr, Pub ID: PER129-SEP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IEEE Communications Letters</td>
<td>$80</td>
<td></td>
</tr>
<tr>
<td>12/yr, Pub ID: PER172-SEP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Shipping & Handling: ______________

TOTAL: ______________________

Outside of North America: add $15 each publication for shipping & handling

Charge to my: □ AmEx □ Visa □ MasterCard

Card Number __________________________
Expiration Date (Month/Year) __________

Signature ____________________________
Date (Day/Month/Year) ________________

Mail or fax completed form with payment to:
IEEE Operations Center
445 Hoes Lane, P.O. Box 1331
Piscataway, NJ 08855-1331, USA
Fax (credit card only): +1 732 981 9667

IEICE-CS Member price: $53

12 Issues/year