IEICE Communications Society GLOBAL NEWSLETTER *Vol. 19*
Contents

Internet Architecture (IA) Technical Committee

Chair: Yasuo Okabe (Kyoto University)
Vice Chair: Koji Okamura (Kyushu University),
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1. Introduction

The character of the Internet has changed from experimental networks for a small number of technical experts into a common infrastructure for industries and everyday life of people in the world. Internet technology is now a big trend that influences our lives and societies across a wide range of fields. The importance will become further evident in a ubiquitous network era, when everything is equipped with network feature and high-speed network service is provided anytime, anywhere.

Conventional approaches for research on the Internet taken by academic societies are strongly tied to Western reductionism and tend to narrow the scope of research into specific fields, and they fail to grasp the Internet as it actually is. For this reason, many activities and technical developments have occurred outside academic societies. Many distinguished people involved with Internet technology feel alienated from academic societies and are resigned to low estimation of their work. This process leads to academic societies becoming isolated from the business world.

It has passed six years since the Internet Architecture (IA) Technical Committee was established to improve such situation, and to become involved in various technical developments and their influence on social activities. The objective of this committee is to establish a process of involvement in Internet activities and technical developments.

2. Area of interest

The following technical fields are covered by the Internet Architecture Technical Committee.

- Fundamentals on the Internet (IPv6, DNS, mobile, multihoming, overlay networks, GMPLS)
- Routing (address assignment, routing protocols, multicast)
- Security (IDS, IPS, incident handling, VPN, PKI, e-mails and anti-SPAM)
- Transport layers (TCP, SCTP, RTP)
- Performance evaluation and QoS (modeling, measurement, simulation, pilot deployment)
- Network management and operation (high reliability, load sharing, authentication, automatic configuration, interoperability, campus networks, regional networks, Internet exchange)
- Internet applications (video streaming, Internet broadcasting, Web services, Grid, P2P, business applications, educations and medications, local governments, technologies for disabled people, IAA (I Am Alive))
- Social issues (security policy, privacy protection, guards for computer crimes, digital rights management)

The research includes not only simple technical developments, but also discussions of its influence, survey and research activities.

3. Activities

3.1 Technical Meetings

The Internet Architecture Technical Committee usually holds four technical meetings each fiscal year. Some of the meetings are held in cooperation with the Quality Aware Internet (QAI) Technical Committee (chair: Prof. Reiji Aibara (Hiroshima Univ.)) of Information Processing Society of Japan (IPSJ).

Last meeting was held in Hiroshima, in conjunction with Japan Gigabit Network (JGN) II symposium in Hiroshima at 18 and 19 of Jan. 2007 in International Conference Center Hiroshima. JGN II is a nationwide Internet test bed for research and development purposes, which is established and operated by NICT (National Institute of Information and communications Technology). We organized a special joint session,

Table 1. Internet Architecture Technical Committee Meeting Schedule FY2007

Date	Place	Themes	Co-organizer	In conjunction wih
May 29	NII (Tokyo)	Internet technology	ITRC, IPSJ QAI	ITRC meet 21 (May 29-31)
Jul. 17	Kyoto Women's University (Kyoto)	Management of distributed systems and the Internet	IPSJ DSM+QAI,	
Oct.	TBA (Fukuoka)	Quality aware Internet	IPSJ QAI	Internet Conference 2007
Jan. 2008	TBA (Kyushu area)	Applications and the Internet	IEICE TM+OIS	

where researches using JGN II are selected. See the pictures of the meeting in Fig. 1 and 2.

The next meeting will be held in cooperation with JSPS (Japan Society for the Promotion of Science) 163rd Committee on Internet Technology (ITRC; chair: Prof. Shinji Shimojo (Osaka Univ.)) on May 29 at National Institute of Informatics (NII). Also see the schedule of next fiscal year in Table 1.

3.2 Special Issues and Sections on Internet Technology

The Internet Architecture Technical Committee organizes a series of IEICE Transaction special issues and sections on Internet Technology. The purpose of these special issues and sections is to exchange recent information and to promote research and development on internet technology for further improvement of current internet information and for development of future advanced IP technology. Since 2001, six special issues and sections have been published and the latest special section on Internet Technology was published in Oct. 2006.

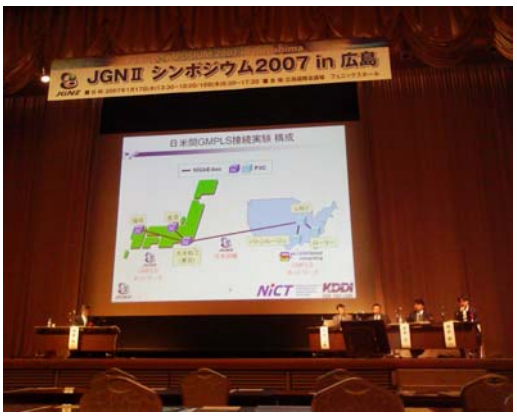
3.3 International Symposium on Applications and the Internet (SAINT)

International Symposium on Applications and the Internet (SAINT) is a international conference co-sponsored by IEEE Computer Society (IEEE-CS) and Information Processing Society JAPAN (IPSJ).

Over the past few years, the Internet has been revolutionizing the way we communicate and access information. As a result, today the Internet accommodates a wide variety of information repositories, services, people, communities, and cultures and supports a diverse range of communication and interaction paradigms. The Internet is also becoming to be ubiquitous and pervasive; accessible and usable from any device and through any network, including wireless and mobile. This is the general theme of SAINT series,"the Pervasive Internet." The first SAINT was held in 2001 in San Diego and since then it has been held every year. SAINT is held in Japan every two or three years and IEICE CS and ISS has been continuously cooperated it.

The latest SAINT2007 was held also in Hiroshima on 15-19 of Jan., in conjunction with the IA Technical Committee meeting, the JGN II Symposium, and many other related events held in the same week called generally "Advanced Internet Tour in Hiroshima 2007". It was composed of 18 paper presentations in regular sessions, 2 key notes and 2 panels. Also there were totally 95 workshop papers presented in the following 9 workshops:

- Next Generation Service Platforms for Future Mobile Systems (SPMS 2007)
- Networked RFID
- Middleware Architecture in the Internet
- Educational Challenges to Deploy the Internet
- Network Mobility (WONEMO)



(a) joint session with JGN II symposium 2007

(b) regular session

Fig. 1 Appearance of the last technical meeting (Jan 18 and 19 in Hiroshima)

- Ubiquitous Networking and Enablers to Context-Aware Services
- The Second International Workshop on Dependable and Sustainable Peer-to-Peer Systems (DAS-P2P 2007)
- Practical Applications of Sensor Networking
- Internet Measurement Technology and its Applications to Building Next Generation Internet

The next SAINT2008 is announced to be held in July 28 - Aug. 1, 2008, in Turku, Finland, in conjunction with IEEE COMPSAC (Annual International Computer Software and Applications Conference) .

4. Call for Presentation and Participation

Paper submission and participation in the technical meetings are welcome. All the events and related information are provided in Table 1.

5. Reference

[1] Internet Architecture Technical Committee Web page, http://www.ieice.org/cs/ia/jpn/

Technical Committee on Optical Fiber Technologies

Mitsuhiro Tateda*, Kunio Kokura**, Shigeru Tomita***,
Masato Shiino**, and Mitsuru Kihara***
*Chiba University, **Furukawa Electric Co. Ltd., ***NTT Corporation

1. Introduction

The OFT (Technical committee on Optical Fiber Technologies) is one of the technical committees of Communications Society of the IEICE (Institute of Electronics, Information and Communication Engineers). The OFT focuses optical fiber technologies and these related issues based on the Communication, the Measurement, the Device, and the Material fields and holds several meetings for researchers and engineers to discuss these topics. Since May 2006, Prof. Mitsuhiro Tateda at Chiba University has assumed the position of chairman. The secretaries are Mr. Kunio Kokura of Furukawa Electric Co. Ltd. and Dr. Shigeru Tomita of NTT Corporation. The assistant secretaries are Mr. Masato Shiino of Furukawa Electric Co. Ltd. and Dr. Mitsuru Kihara of NTT Corporation. Fig. 1 shows the chairman, the secretaries, and the assistant secretaries.

2. OFT Activities

The OFT holds one- or two-day technical meetings six times a year. At the meetings, many researchers participate and report the latest results of their research. The schedule from April 2007 to March 2008, consisting of six regular technical meetings and one workshop, is shown in Table 1. Several of them are co-organized with the OCS (Optical Communication Systems), LSJ (Laser society of Japan), IEE-CMN (Institute of Electrical Engineers of Japan - Communications), ITE-BCT (Institute of Image Information and Television Engineers – Broadcast Technologies), and OPE (Opto-electronics) committees.

Fig. 1: Chairman, secretaries, and assistant secretaries of OFT. (from right: Mr. Shiino, Mr. Kokura, Prof. Tateda, Dr. Tomita, and Dr. Kihara)

Recently presented papers focus on technologies that support novel transmission fibers, fiber cables and devices in FTTH (Fiber to the Home) systems, functional fibers, photonic crystal fibers, nonlinear fibers, and fiber sensors. The number of the presented papers at regular meetings in the last year (the 2005-2006 year) was 114 and the number of participants was 425.

Furthermore, the OFT conducts an annual workshop. The last workshop, whose theme was “the latest fibers and these applications”, was held at Kyoto on Oct. 12, 2006. At workshops, we host lectures by invited speakers who are experts in their fields.

For more information about the OFT, please refer to the following site.

http://www.ieice.org/cs/oft/jpn/

Table 1: Regular meetings and workshop schedule (Apr. 2007 – Mar. 2008)

Date	*Place*	*Themes*	*Co-organizer*
May 24-25	Kagoshima University (Kagoshima)	Functional fibers	
Aug. 23-24	Kitami Institute of Technology (Hokkaido)	Fibers, Cables, Devices, Optical signal processing, measurement, propagating, and generating	OCS, LSJ
Oct. 18	Toyama Prefectural University (Toyama)	[Workshop] To be determined	
Oct. 19	Toyama Prefectural University (Toyama)	Fiber technologies	
Nov. 21-22	Osaka University (Osaka)	Optical access systems and devices, Microwave photonic systems (ROF, FWA, etc.), Optical image transmission (incl. CATV), Operation, Fiber cables	OCS, IEE-CMN, ITE-BCT
Jan. 24-25	Hiroshima Institute of Technology (Hiroshima)	Fiber technologies	
Mar. 6-7	Kikai Shinko Kaikan (Tokyo)	Lightwave sensing, control, detection, measurement, Nuero	OPE

Report on the 4th QoS Workshop

Kiyohide NAKAUCHI (NICT)
Toru HASEGAWA (KDDI R&D Laboratories)

1. Workshop and venue

The 4th QoS Workshop was held on October 21, 2006 at Goto Memorial Hall in Musashi Institute of Technology, Japan (Fig.1). The workshop was organized by Technical Committee on Communication Quality (CQ) of Communication Society of IEICE, which covers the broad ranges of communication quality. This workshop focused on the hot topics on the technologies of video distribution over the Internet and evaluation of video quality.

Fig.1 Goto Memorial Hall

2. Technical and poster sessions

54 Japanese people participated in this workshop (Fig.2). The workshop consisted of a technical session (3 talks) and a poster session (11 posters).

In the technical session, we had 3 invited speakers presenting “The Quality of IP Broadcasting Service“ by Dr. Katsunori AOKI (NHK Science & Technical Research Laboratories), “Global Trends of Objective Evaluation Schemes for Video Quality” by Dr. Ryoichi KAWADA (KDDI), and “QoS Evaluation by Simulations Using OPNET” by Dr. Kenji YAMASHITA (Johokobo). Dr. AOKI showed the requirements for the IP broadcasting service and then discussed the possibility of applying IP multicast technology for the service. Dr. KAWADA mainly introduced the recommendations of ITU-T SG9 and the activities of Video Quality Experts Group (VQEG) on objective evaluation of video quality. Finally, Dr. YAMASHITA introduced many kinds of QoS modules for simulating advanced network QoS technologies implemented on OPNET simulator.

Fig.2 Workshop Room

In the poster session, all the attendees had active discussions in a friendly atmosphere (Fig.3). The poster session covers broad ranges of communication quality such as network QoS control, wireless ad-hoc networks, and haptic communications.

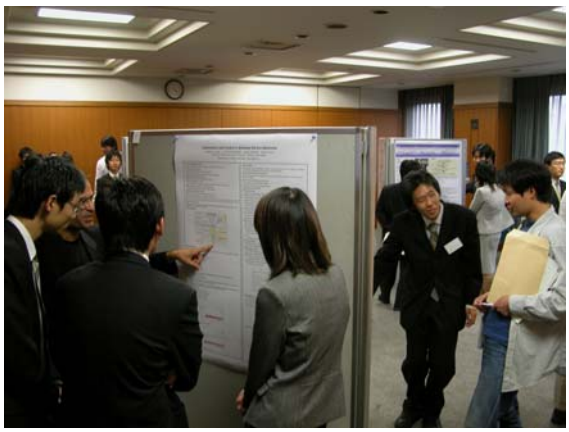


Fig.3 Poster Session

3. Conclusion

QoS related issues will attract more attentions in the research areas of the new generation networks and future communications. The next QoS workshop will be held in autumn this year.

The 20th symposium on Optical Communication Systems "Optical communication and networking technologies required in the NGN era"

Technical Committee on Optical Communication Systems

1. Overview

The 20th annual symposium was held on Dec. 14th and 15th 2006, hosted by the IEICE Technical Committee on Optical Communication Systems (TC-OCS) and joint-hosted by the IEEE LEOS Japan Chapter and the IEICE Technical Committee on Photonic Networking (TC-PN). More than 170 participants, almost the same number as last year, joined the symposium. This memorable symposium focused on the NGN (Next Generation Network), and the main theme of the symposium was "Optical communication and networking technologies required in the NGN era".

The program of the symposium is tabulated in Tab.1. It consisted of a keynote speech, one workshop, a reception, and a rump session on the first day, an award lecture for the achievement award from the IEICE, the three invited talks and a workshop on the second day, and product exhibitions.

2. The first day

The 20th anniversary symposium was opened by Dr. Kuwahara, the committee chair of TC-OCS. He also reported the activity in FY2006. In FY2006, we host seven regular technical meetings, two special meetings, and two special sessions in the IEICE general/society conferences. Although the number of submission decreased from last FY, the number of participants increased.

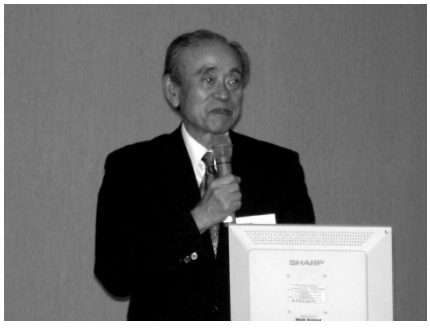


Fig.1 Prof. Yasuharu Suematsu (NII) presenting the keynote speech

Tab.1 Program of the 20th OCS symposium

THE FIRST DAY (DEC. 14, 2006)
Opening talk and TC-OCS activity report The TC-OCS Chair: Dr. Hideo Kuwahara (Fujitsu)
Keynote speech: Past and future of optical communications **Keynote speaker** Prof. Yasuharu Suematsu (NII)
Workshop 1: Optical Communication technologies required by and intended to NGN' **Chair** Prof. Tetsuya Miki (Univ. of Elec. Commun.) **Panelists** Prof. Koichi Asatani (Kogakuin Univ.) Prof. Hiroyuki Morikawa (Univ. of Tokyo) Dr. Tetsuya Yuge (Softbank Telecom) Dr. Masatoshi Suzuki (KDDI Labs) Dr. Shigeki Suyama (NEC) Dr. Kuniaki Motoshima (Mitsubishi Elec.)
Reception
Rump session: Optical Communication Tasting **Chair** Dr. Nori Shibata (Yazaki Corporation) **Panelists** Dr. Yukio Karita (KEK) Dr. Yutaka Shimbo (JRI,Ltd) Prof. Haruhiko Tuchiya (Utsunomiya Univ.)
THE SECOND DAY (DEC. 15, 2006)
Award lecture and invited talks **Chair** Prof. Masayuki Matsumoto (Osaka Univ.) **Lecturer** Dr. Kazuo Hagimoto (NTT) **Invited speakers** Prof. Ken-ichi Kitayama (Osaka Univ.) Dr. Katsuhiko Kawazoe (NTT) Dr. Kazumi Wada (Univ. of Tokyo)
Workshop 2: NGN leads the IT Society **Chair** Prof. Masataka Ohta (Tokyo Inst. of Tech.) **Panelists** Dr. Takamichi Miyoshi (IIJ) Dr. Hiroshi Mano (Allied Telesis Holdings) Dr. Narito Kurata (Kajima Corporation) Prof. Satoshi Matuoka (Tokyo Inst. of Tech.) Dr. Kenichi Hirotsu (Sumitomo Elec. Industries)
Closing talk The TC-OCS Chair: Dr. Hideo Kuwahara (Fujitsu)

The keynote speech, “Past and Future of Optical Communications’’, by Prof. Suematsu from NII followed. His talk covered a variety of topics, past technologies, expected technologies from devices to networks, and the social impact of the optical communications, and it befitted the keynote speech for this memorable symposium.

The workshop 1, chaired by Prof. Miki from Univ. of Elec. Commun., aimed to discuss the optical communication technologies required by the NGN with six panelists from a wide research area. This three hour workshop cleared up “What the NGN is”, “Impacts of the NGN”, “Technology trends for the NGN”, and “Innovations required for the NGN”.

After the reception, the rump session was held. The topic of this rump session was “Optical Communication Tasting’’. By witty chairing of Dr. Shibata from Yazaki Corporation, more than 100 participants enjoyed lively discussions between the panelists and the floor after a few rounds of drinks.

. The second day

The second day of the symposium was started by the award lecture for the IEICE achievement award, “Further Challenges in Optical Frequency” by Dr. Hagimoto from NTT. He commented on the importance of wireless communication technologies for the further speeding up of optical communication systems. It was followed by three precious invited talks, “Photonic Networks: New trends and steppingstones” by Prof. Kitayama from Osaka Univ., “Next Generation IP Broadcasting technologies” by Dr. Kawamori on behalf of Dr. Kawazoe from NTT, and “Si Photonics for Optical Communication Systems” by Prof. Wada from Univ. of Tokyo. These talks included a variety of topics for materials, devices, systems, services, research trends and history of optical communications in Japan and were very informative.

In the afternoon of the second day, the workshop 2, “NGN leads the IT Society”, was organized by TC-PN. The five short talks from panelists were followed by discussions based on the questions from the floor. These wide-ranging discussions impressed on us high expectations for the NGN.

Fig.2 The chair and the panelists of the workshop 1. Prof. Miki (UEC) , Prof. Asatani (Kogakuin Univ.), Prof. Morikawa (Univ. of Tokyo), Dr. Yuge (SB Telecom), Dr. Suzuki (KDDI Labs), Dr. Suyama (NEC), Dr. Motoshima (Mitsubishi Elec.), from the right.

Fig.3 Dr. Kazuo Hagimoto (NTT) giving his award lecture.

4. Conclusion

All in all, we, the technical committee on optical communication systems, have taken that the 20th symposium was successful. Via two days of lively discussions, every participant recognized that what the NGN is and what kind of the optical communication technologies are required by the NGN. We wish, this symposium was useful for persons intending to make the NGN a reality.

Fig.4 Invited speakers. Prof. Kitayama (Osaka Univ.), Dr. Kawamori (NTT), Dr. Wada (Univ. of Tokyo) from the left.

Fig.5 Workshop 2. Dr. Miyoshi (IIJ), Dr. Mano (Allied Telesis), Dr. Kurata (Kajima Corp.), Prof. Matuoka (TIT), Dr. Hirotsu (Sumitomo Elec. Industries) from the right.

Japan-Korea Joint Conference on Satellite Communications (JC-SAT 2006) Report

Kiyoshi Kobayashi
Secretary of the Satellite Telecommunications Technical Group

Satellite Telecommunications Technical group of IEICE held a two-day conference, 2006 Joint Conference on Satellite Communications (JC-SAT 2006), with KOSST (Korea Society of Space Technology) on October 19-20, 2006 at Seogwipo KAL Hotel, Jeju-do, Korea. About 90 researchers and engineers from Japan, Korea, and China participated in the conference. The two keynote speeches were delivered by the leading researchers from Japan and Korea, and 30 state-of-the-art technical papers were presented. The conference was successfully closed with the promise of JC-SAT2007 in Japan.

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 2006 was the seventh conference of the series.

In the opening session on October 19, 2006, Dr. Jae Moung Kim, President of KOSST, gave the opening address and Dr. Masato Tanaka, Chief of the Satellite Telecommunications Technical Group, presented the congratulatory addresses.

The keynote speech presented by Dr. Yoshiaki Suzuki (NICT) introduced recent R&D activities on satellite communications in NICT, which is named the "Ubiquitous Space-Net Program." Dr. Suzuki positioned the space communication technology R&D in NICT's new middle term plan. The keynote speech entitled “Satellite Communication Business in Korea” was presented by Dr. Seon Joong Kim (KT). Dr. Kim focused on current business trends in Korean satellite communications. He also referred to future HDTV accommodation and "Han Ryu" delivery for the Asia region via satellite.

Thirty technical papers were presented in eight consecutive sessions; System Engineering I, II, Advanced Technology I, II, III, Antenna & Propagations, Applications, and Components.

In the System Engineering, Applications and Components sessions, major development results of Korean new multi-mission satellite, COMS (Communication, Ocean and Meteorological Satellite), were intensively presented by Korean side speakers. These presentations covered the control system design, communication system design, on-board components and devices, test equipment and so on. State-of-the-art communication technologies were also presented, for example, satellite experiment of a new combined frequency/polarization multiplexing scheme, a universal multi-carrier burst modem, and simplified

Fig. 1 JC-SAT2006 Registration Desk

Fig. 2 Dr. Y. Suzuki (Upper) and Dr. S. Kim (Lower) in their keynote speech

design procedure for waveguide output multiplexers. Moreover, a tentative report and related stories on the trial of lecture delivery via international satellites attracted the audience.

The Advanced Technology, and Antenna and Propagation sessions covered a wide range of satellite communication techniques such as enhanced network /transport layer protocols for satellite communications environments, a new method of non-regeneration OBP, a low-profile wideband tracking antenna, propagation measurement results on ground to orbit optical link, and a performance evaluation of modulation and coding schemes for DVB-RCS and DMB systems.

All manuscripts of the technical reports were compiled and issued as the proceedings.

Both Japan and Korea organizing committee members agreed to organize the next conference, JC-SAT 2007, in Japan for next October or early November. It was also agreed that we would extend the geographic area to call for papers and participants beyond just Japan and Korea to include the entire Asian region. Details of JC-SAT 2007 will be announced on the home page of the satellite telecommunication technical group of IEICE.
(http://www.ieice.org/cs/sat/jp)

Report on 9th Asia-Pacific Network Operation and Management Symposium (APNOMS2006)

Hideo Imanaka*, Hiroshi Kuriyama**
*Secretary of the conference, NTT
**Vice Chair of the conference, NEC

1. Overview of APNOMS 2006

The 9th Asia-Pacific Network Operations and Management Symposium (APNOMS2006) was held at the Paradise Hotel in Busan, Korea, from 27th to 29th September. APNOMS2006, which was organized by KICS (The Korean Institute of Communication Science) and IEICE TM, was an international conference for telecommunication network management and operation. The past activities of APNOMS can be found online [1]. APNOMS2006 entitled "Management of Convergence Networks and Services" had five keynote speeches, one DEP session, four tutorial sessions, ten technical sessions and three short paper/poster sessions. The exhibition program was held on the second and third days. More than 300 people from 14 countries participated.

2. Sessions and Activities

Five executives delivered keynote speeches. Photo 1 shows a snapshot of a keynote speech. Mr. Maeda from Japan talked about NGN standardization and its transport networks. In the DEP session, five panelists discussed with the audience about the realization of a new network operation paradigm in the NGN era.

50 accepted papers out of 289 papers submitted were presented in 10 technical sessions. In the poster session, 42 papers were presented including 25 short papers, see photo 2. It is the new trend that many papers focused on the management of broadband wireless access networks and QoS-guaranteed service provisioning.

In the exhibition program, 11 companies from Korea and Japan demonstrated their new operation schemes, see photo 3. As the social event, we had a banquet with fusion drumming to show Korean culture, shown in photo 4.

Photo 1 Snapshot of Key note speech

3. Conclusion

APNOMS2006 was a huge success. APNOMS2007 will be held in Sapporo, Japan, in October 2007. Information will be available on the web soon.

4. References

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

Photo 2 Snapshot of Poster session

Photo 3 Exhibition

Photo 4 Banquet

Welcome to the IEICE Overseas Membership Page URL:http://www.ieice.org/

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B (Communications)	**B** (Japanese Edition) **EB** (English)	Fundamental Theories for Communications, Devices/Circuits for Communications, Transmission Systems and Transmission Equipment for Communications, Optical Fiber for Communications, Fiber-Optic Transmission for Communications, Switching for Communications, Switching for Mobile Communications, Network, Network Management/Operation, Internet, Wireless Communication Technologies, Terrestrial Radio Communications, Satellite Communications, Optical Wireless Communications, Antennas and Propagation, Electromagnetic Compatibility (EMC), Sensing, Navigation, Guidance and Control Systems, Energy in Electronics Communications, Terminals for Communications, Multimedia Systems for Communications, Broadcast Systems, Integrated Systems for Communications, Space Utilization Systems for Communications
C (Electronics)	**C** (Japanese Edition) **EC** (English)	Electromagnetic Theory, Lasers, Quantum Electronics, Optoelectronics, Microwaves, Millimeter-Waves, Ultrasonic Electronics, Electronic Circuits, Electronic Materials, Organic Molecular Electronics, Electronic Components, Electromechanical Devices and Components, Semiconductor Materials and Devices, Integrated Electronics, Electron Tubes, Vacuum and Beam Technology, Electronic Displays, Superconducting Electronics, Storage Technology, Electronic Instrumentation and Control
D (Information and Systems)	**D** (Japanese Edition) **ED** (English)	Computation and Computational Models, Automata and Formal Language Theory, Algorithm Theory, Complexity Theory, Computer Components, VLSI Systems, Computer Systems, Fundamentals of Software and Theory of Programs, System Programs, Software Engineering, Database, Contents Technology and Web Information Systems, Data Mining, Networks, Dependable Computing, Application Information Security, Distributed Cooperation and Agents, Artificial Intelligence and Cognitive Science, Human-computer Interaction, Office Information Systems, e-Business Modeling, Educational Technology Rehabilitation Engineering and Assistive Technology, Pattern Recognition, Speech and Hearing, Image Processing and Video Processing, Image Recognition, Computer Vision, Computer Graphics, Multimedia Pattern Processing, Natural Language Processing, Biocybernetics, Neurocomputing, Biological Engineering, Music Information Processing, Kansei Information Processing, Affective Information Processing
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University/college/school of the highest academic degree Month & year of graduation

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☐A: Engineering Sciences ☐B: Communications ☐C: Electronics ☐D: Information & Systems

Additional Society (optional): ☐A: Engineering Sciences ☐B: Communications ☐C: Electronics ☐D: Information & Systems

Additional Transactions of paper version (optional):

☐EA: Fundamentals ☐EB: Communications ☐EC: Electronics ☐ED: Information & Systems

☐A (Japanese) ☐B (Japanese) ☐C (Japanese) ☐D (Japanese)

Journal subscription (optional) ☐(Japanese)

Remittance **Remittance is available only in *Japanese yen* by a *credit card*.**

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Endorsement *Endorsements by two IEICE Members for Member application and by one Member for Student Member application is required. If you have any questions or concerns, please ask member@ieice.org.*

I recommend this applicant for IEICE membership.

Endorser's name Membership number Endorser's signature Date

Endorser's name Membership number Endorser's signature Date

From Editor's Desk

● IEICE General Conference in Nagoya

The IEICE General Conference is right around the corner. The next conference is to be held at Meijo University in the City of Nagoya from March 20(Tue) to 23(Fri), 2007.

Nagoya City, center of the third largest metropolitan area in Japan, is located between Tokyo and Osaka area. The Bullet Train (Shinkan-sen) will take you there in less than two hours from Tokyo. Coming out of the Nagoya Station (or "Mei-eki" as locals call it), the new landmark of Nagoya, the "Midland Square" will welcome you. Just opened in early March, you will enjoy the panoramic view of the city from 220 meters above ground level. From there, you will find the Nagoya Castle, famous for the Golden Dolphins (Shachi) on its roof. This would be a very nice place to take a walk, especially in Spring time with blooming cherry trees.

We hope you will enjoy the General Conference, and in the meantime, have a chance to fully explore the beautiful (and delicious; Yes, Nagoya is famous for great food!) City of Nagoya.

IEICE Global News Letter Editorial Staff

Editorial Staffs of this issue
No special order is observed

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Call for Papers

Second Call for Papers

December20, 2006

Workshop for Space, Aeronautical and Navigational Electronics (WSANE 2007)

Venue : Australian Resources Research Centre (ARRC), Perth, WA

Date : April 15-18, 2007

Organized by

Technical Group on Space, Aeronautical and Navigational Electronics (SANE), IEICE, Japan

Sponsored by

Commonwealth Scientific and Industrial Research Organization (CSIRO), Australia
The University of Western Australia (UWA), Australia
Japan Aerospace Exploration Agency (JAXA), Japan
National Institute of Information and Communications Technology (NICT), Japan
Electronic Navigation Research Institute (ENRI), Japan
Chinese Academy of Space Technology (CAST), China
State Key Laboratory of Integrated Services Networks, Xidian University, China
Korea Aerospace Research Institute (KARI), Korea
Electronics and Telecommunications Research Institute (ETRI), Korea

In cooperation with

IEEE AESS Japan Chapter, IEEE GRSS Tokyo Chapter, AIAA-JFSC

Objective:

The third international Workshop for Space, Aeronautical and Navigational Electronics (WSANE 2007) will provide an opportunity for system engineers and researchers to discuss new and viable technical topics of electronics system in spacecraft, aircraft, ships and ground facilities.

Topics:

Topics covered will include but are not limited to the following:
(1) Satellite and space-station systems
(2) Remote sensing and scientific observation technology
(3) Radar systems and applications
(4) Navigational and communication systems

Instructions for Authors:

Prospective authors are cordially requested to submit an abstract through the Submission System (http://www.ieice.org/cs/sane/eng) of technical group on SANE with the title of the paper, the author's name(s), affiliation, and contact information. The contact information should include postal address, telephone/ facsimile numbers and e-mail address,

Abstracts due: Jan 31, 2007.

Camera-ready papers due: March 7, 2007. (Six A4 pages max.)

(A special English edition of the transaction of IEICE may be printed based on selected papers submitted to WSANE2007 according to conditions on the following web-site. http://www.ieice.org/eng/shiori/)

Schedule:

April 15(Sun)		Evening Pre-registration
April 16(Mon)	AM Registration & Presentations	
	PM Presentation	Evening Reception
April 17(Tue)	AM Presentations	PM Presentations
April 18(Wed)	AM Presentations	PM Technical tour

http://www.ieice.org/cs/sane/WSANE2007/
sane_ac-chair@mail.ieice.org

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Call for Papers

Special Section on Cognitive Radio and Spectrum Sharing Technology

The Institute of Electronics, Information and Communication Engineers (IEICE) Transactions on Communications is pleased to announce that it will publish a special section entitled "Special Section on Cognitive Radio and Spectrum Sharing Technology" in **January 2008**. The cognitive radio is a revolutionary technology in wireless communications for dynamic or decentralized access to the radio spectrum without interfering with the transmission of authorized devices. Recent development of dynamic and adaptive software defined radio technology enables the spectrum sharing in cognitive radio, such as adaptive RF circuits, reconfigurable processing devices, adaptive signal processing, and dynamic resource allocation, as well as sophisticated spectrum monitoring technology. For instance the FCC adopted its first "Report & Order" on cognitive radio in 2005 and expressed its intent to continue to explore new and evolving applications of cognitive radio such as unlicensed use in television band. With a view to promoting further progress of R&D in this field, the special section will present the latest work on cognitive radio and spectrum sharing technology.

1. Scope

The topics of interest include the following areas, but are not limited as long as related to cognitive radio technology:

- ✓ Cognitive Radio
  - Spectrum measurements, radio channel models, system model for cognitive radio
  - Spectrum sensing, signal detection, cooperative detection
  - Dynamic radio resource management, opportunistic scheduling
  - Dynamic network architecture, seamless roaming, protocols
  - Spatial spectrum sharing, transmit and receive interference cancellation
  - Policy and regulation for cognitive radio
- ✓ Technology for Spectrum Sharing
  - Software defined and cognitive radio prototype hardware
  - Implementation of radio signal processing technology on reconfigurable devices
  - Broadband, multi-band, or reconfigurable antennas
  - Broadband, multi-band, adaptive analog RF circuits and devices
  - High speed, broadband, adaptive analog-to-digital (A/D) and digital-to-analog (D/A) converters
  - RF direct sampling, band pass sampling, sampling mixer technology
  - Reconfigurable signal processing devices

2. Submission Instructions

Papers must be submitted by **April 27, 2007.** Manuscript should be prepared according to the guideline given in the Information for Authors. The latest version of it is available at the web site, **http://www.ieice.or.jp/eng/shiori/mokuji_cs.html**, or you can refer its brief summary attached to IEICE Transactions. The length of the paper should not exceed 8 printed pages in principle. The term for revising the manuscript after acknowledgement of conditional acceptance for this special section could be shorter than that for other issues (60 days) because of the tight review schedule. In this special section, only the electric submission is adopted. Prospective authors are requested to follow carefully the submission process described below.

1. Submit papers using the IEICE Web site **https://review.ieice.org/regist_e.aspx**. The acceptable format of the file is PDF file. Other any files, e-mail submission, and postal mail are NOT acceptable. Authors should choose the [Special-EB] Cognitive Radio and Spectrum Sharing Technology as a “Type of Issue/Category of Transactions” on the online screen. Do not choose [Regular-EB] Communications or other special sections.
2. “Copyright Transfer and Page charge Agreement” and “Confirmation Sheet of Manuscript Registration” must be sent by postal mail to the following address (secretariat of this issue). Please mark “Special Section on Cognitive Radio and Spectrum Sharing Technology” on the envelope.

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3. Special Section Editorial Committee

*Please note that at least one of the authors must be an IEICE member when the manuscript is submitted for review. If the manuscript is accepted for publication, all authors, including authors of invited papers, should pay for the page charges covering partial cost of publication. Authors will receive 50 copies of the reprint.

Call for Papers

Special Section on
Ubiquitous Sensor Networks

The IEICE (Institute of Electronics, Information and Communication Engineers) Transactions on Communications announces a forthcoming special section on Ubiquitous Sensor Networks to be published in **December 2007**.

In the future ubiquitous network society in which everything can connect to a network, the ubiquitous sensor network can provide not only the advancement of sensing and communication technologies, but also new services using sensed information. Therefore, it must be a promising key technology that can yield a new concept in the field of communications. The ubiquitous sensor network consists of a fusion of the academic and technological fields, including the followings: sensing, information theory, transmission and detection, networking, control theory, system theory, software, middleware, and various applications. However, a technology individually developed cannot achieve the final goals unless it brings a great advance. Thus, there are many challenges that need to be overcome in realizing ubiquitous sensor networks. Considering the objectives above, the technical committee on ubiquitous sensor networks came to start in April 2007 by integrating two technical groups on sensor networks (SN) and on ubiquitous and real-world oriented networking (URON).

The purpose of this special section is to aim at the breakthrough of the wide variety of technologies to achieve the ubiquitous sensor networks, ranging from the fundamental theories and the component technologies to the platforms and the applications. Your contribution to this special section would be greatly appreciated.

1. Scope

Suggested topics include but are not limited to the following areas concerning ubiquitous sensor networks:

- Fundamental Theories
  Information theory, Communication theory, Signal processing, Control theory, Distributed information processing and control, etc.
- Component Technologies
  Information fusion, Data mining, Databases, Network topology, Resource management, Protocol design, Sensor localization, RF tags, Security and privacy protection, Context-aware technology, Auto-configuration, Mobility support, etc.
- Platforms
  Devices and appliances, RFID, Power-saving devices, Optimal design for low-EMI, Compact devices, System control and management, Key software technology, Middleware, Smart space, etc.
- Applications
  Disaster relief, Entertainment, Environmental measurement, Automatic system control, Living support, Medical support, Context-aware applications, Position-aware applications, Real-world oriented applications, Robots, etc.

2. Submission Instructions

The deadline for submission is **March 23, 2007 (JST)**. Manuscript should be prepared according to the guideline given in the "Information for Authors". The latest version of it is available at the web site, http://www.ieice.org/eng/shiori/mokuji_cs.html, or you can refer its brief summary attached to IEICE Transactions. The length of the paper should not exceed 8 printed pages in principle. The term for revising the manuscript after acknowledgement of conditional acceptance for this special section could be shorter than that for other issues (60 days) because of the tight review schedule. In this special section, only the electric submission is adopted. Prospective authors are requested to follow carefully the submission process described below.

1. Submit papers using the IEICE Web site https://review.ieice.org/regist_e.aspx. The acceptable format of the file is PDF file. Other any files, e-mail submission, and postal mail are NOT acceptable. Authors should choose the [Special-EB] Ubiquitous Sensor Networks as a "Type of Issue/Category of Transactions" on the online screen. Do not choose [Regular-EB] Communications or other special sections.
2. "Copyright Transfer and Page charge Agreement" and "Confirmation Sheet of Manuscript Registration" must be sent by postal mail to the following address. Please mark "Special section on Ubiquitous Sensor Networks" on the envelope. We cannot start the review process without them, even if we receive the manuscript.
3. Please note that editorial committee will strictly keep the deadline for paper submission.

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At least one of the authors must be an IEICE member when the manuscript is submitted for review.