



IEEE Seoul Section Annual Report 2017



IEEE Smart Tech Workshop 2017 with IEEE President and CEO Karen Bartleson and R10 Director Kukjin Chun, July 14, 2017 at The-K Hotel, Seoul, Korea

IEEE Seoul Section Annual Report 2017

PART A - SECTION SUMMARY

A.1 Executive Summary

The IEEE Seoul Section is thrilled to report that we had a wonderful and fruitful year in 2017 thanks to the launching of Smart Tech Workshop and that we will have an even more active year in 2018 as TENCON 2018 will be held in October 28-31, Jeju, Korea. In the midst of these two international events, 2017 was a busy year with the following activities:

- R10's membership development strategies have been paid full scale attentions ranging from student branch activities to member recognitions. The Seoul Section achieved an outstanding member recruitment and retention performance as recognized by the IEEE Member Recruitment and Recovery Committee. Compared to 2016, the section obtained 8% increase in total active members, almost in every category. The section is going to prepare both a retention program for active members and a promoting program for members and senior members.
- To keep all the members technically current and abreast of new and changing technologies, the themes of the Smart Tech 2017 and the IEEE TENCON 2018 had been selected according to IEEE's new initiatives for emerging technologies. The themes became 5G for Smart Tech Workshop and Intelligence Outbreak for TENCON 2018. New topics are also currently open for session organization.
- To facilitate professional networking, IEEE Seoul Section assisted to form new technical chapters and invested efforts to invite the chairs to excom meetings, to national council meetings, and to the annual Higher Membership Promotion Committee meeting. Now there are 40 technical chapters, including 3 joint chapters, and two affiliation groups, YP and WIE, who are going through team building.
- To provide more volunteer leadership opportunities, most of the organizing committees of the Smart Tech Workshop 2017, TENCON 2018, and Student Paper Contest 2017 were appointed from the IEEE Seoul Section's officers, members, and student members. The chapter chairs and student branch officers are encouraged to launch and host local activities and meetings. Those officers were recognized and appreciated in the annual meeting.
- To keep growing with IEEE's continuing education benefits, especially for the ones in industrial sectors, a metropolitan workshop series had been launched. The Smart Tech Workshop 2017 was held in July 14th in Seoul with more than 5 keynote speakers including 2017 IEEE President and CEO Karen Bartleson. The one day workshop had more than 100 participants.
- The student activity in Seoul Section can be highlighted by the Student Paper Contest 2017 held in Dec. 2, 2017 in Hongik University, in which 42 papers were presented and evaluated for prizes. Furthermore, the student exchange programs brought 5 participants from Japan and sent one student to Tokyo Section's TOWERS event. The travel funds for the students were provided by the participating sections as part of prizes.
- The Student Branch at Hongik University hosted an art festival combined with technology called AAT (Art attracts technology) in July 28th ~ 29th at Hongdae, Seoul.

More than 30 students volunteered as the attractors to the event and more than 200 guests enjoyed the two day VR and AR art show. The event video won the 2nd prize at the R10 student video contest.

- IEEE/IEIE Joint Outstanding Young Engineer Award 2017 was given to Professor Sangheon Paek of Korea University for his outstanding contributions to mobile networks and communications studies.
- The General Assembly of IEEE Seoul Section held in Dec. 2, 2017 approved the financial report and secretary reports.
- The 42nd HMPC 2017 Dinner Meeting was held on December 28th with 90 participants at Westin Chosun Hotel to recruit non-IEEE members and to promote members to higher grades. The event proceeded for two hours with an award ceremony, special lectures and music entertainment along with dinner, followed by informal gatherings.
- IEEE Seoul Section witnessed two 50 years loyal members for the first time in the section history. They were recognized at the annual meeting and appreciated with plaques, badges, and certificates.
- Section Executive Committee Member List

Position	Name	Affiliation
Chair	Jong Chang Yi	Hongik University
Vice-Chair	Cheon Won Choi	Dankook University
Vice-Chair	Changhyun Kim	POSTECH
Vice-Chair	Dalsoo Kim	TLI
Secretary/SAMEE Recipient	Chaewoo Lee	Ajou University
Treasurer	Yongjun Park	Hanyang University
Web Coordinator	Jinyoung Hwang	Korea Aerospace University
Education Activities Chair	Gilsoo Jang	Korea University
Education Activities	Yoon Hee Kim	Sookmyung Women's University
Student Activities Chair	Dongmyoung Lee	Hongik University
WIE Coordinator	Sang Mi Lee	IITP
Membership Dev. & Promotion	Kyeon Hur	Yonsei University
Student Branch Coordinator	Soyoung Kim	Sungkyunkwan University
Young Professional Coordinator	Albert No	Hongik University
Technical Activities Coordinator	Inkyu Lee	Korea University
Professional Activities Coordinator	Minjung Park	Ehwa Women's University
HMPC Coordinator	Jung Hee Han	Korea Aerospace University
HMPC Coordinator	Seung Jung Shin	Hanse University
Chapter Coordinator	Chang Sung Jeong	Korea University
Awards & Recognition	Byung Gook Park	Seoul national University
History Committee	Dae Gwon Jeong	Korea Aerospace University

A.2 Financial Report

The IEEE Seoul Section's financial condition has continued to maintain a good balance in the year of 2017. The year 2017 observed that the contribution part exceeded IEEE support by more than twice mainly due to the workshop registration fees and the local government support. Most of the expenditure was allocated for meeting events and online/offline publications for the Smart Tech Workshop, Student Paper Contest, HMPC, and TENCON 2018 event. All the details of transactions are described and reported through the IEEE NetSuite reporting.

1. Income

Item	Amount (Won)
IEEE Support	19,909,926
Contribution	46,819,700
Interest	16,278
Total	66,745,904

2. Expenditure

Item	Amount (Won)
Meetings and Social Events	32,758,328
Student Activities	7,464,981
Chapter Support	2,121,630
Other Management & General Expenses	27,636,781
Total	69,981,720

3. Total Net Worth

Item	Amount (Won)	
Balance beginning of the year 2017	26,437,413	A
Total Income of the year 2017	66,745,904	B
Total Expenditure of the year 2017	69,981,720	C
Total Net Increases	-3,235,816	B-C
Balance end of the year 2017	23,201,597	A+B-C

4. Other Special Financial Activities

Item	Amount (Won)	Net (Won)
Smart Tech Workshop 2017 Registration	24,603,000	
Smart Tech Workshop 2017 Expenses	21,437,220	3,165,780
HMPC 2017 Registration	7,500,000	
HMPC 2017 Expenses	6,703,000	797,000
TENCON 2018 Fund Raising	12,880,000	
TENCON 2018 Expenses	25,663,912	-12,783,912

PART B - ORGANIZATIONAL ACTIVITIES

B.1 Membership Development Activities

Compared to 2016, the section obtained 8% increase in total active members, almost in every category except associate members in 2016. Compared to 2015, we had 17.3% increase.

- Total number of active members in the past 3 years.

Year	Member	Honorary Member	Life Fellow	Fellow	Life Member	Life Senior	Senior Member	Associate	Student	Total
2015	1632	1	4	29	5	3	288	88	955	3005
2016	1588	1	8	25	8	7	298	89	1240	3264
2017	1693	1	10	25	9	9	318	83	1371	3526

- Seoul Section will maintain the membership development program in 4 directions.
 - To develop a recruit program for undergraduate and graduate students.
 - To develop a membership recruit program for industry.
 - To develop a membership elevation program for members and senior members.
 - To recognize and appreciate loyal members, new members, and volunteer services.
- The undergraduate program will be focused on seeding prospective student group circles interested in IEEE in universities in the section.
- In 2017, 2 members were elevated to the Fellow member grade:
 - Prof. Sung Kim of Seoul National University for contributions to the design of microfabricated neural prosthetic devices.
 - Prof. Jung Ik Ha of Seoul National University for contribution to sensorless control of AC drives.
- In 2017, 2 members were recognized as the IEEE 50 years loyal members:
 - Prof. Souguil Ann of Seoul National University, former R10 Director and IEEE BOD Secretary.
 - Dr. Seungtaik Yang of ETRI, former Minister of Information and Telecommunications of Korea.

B.2 Chapter Activities

- IEEE Seoul Section was associated with 40 Technical Societies as shown below:

Technical Chapters	Code	Members	Chair, Affiliation
IEEE Aerospace and Electronic Systems	AES010	26	Young Kil Kwag, Korea Aerospace Univ.
IEEE Antennas and Propagation	AP003	58	Jae Hoon Choi, Hanyang Univ.

IEEE Broadcast Technology	BT002	18	Byungwoo Jeon, Sungkyoonkwan Univ.
IEEE Circuits and Systems	CAS004	227	Myung Hoon Sunwoo, Ajou Univ.
IEEE Communications	COM019	300	Sunghyun Choi, Seoul National Univ.
IEEE Computational Intelligence	CIS011	36	Byoung-Tak Zhang, Seoul National Univ.
IEEE Computer	C016	240	Chang Sung Jeong, Korea Univ.
IEEE Consumer Electronics	CE008	53	Seungwon Jung, Dongguk Univ.
IEEE Control Systems	CS023	60	Poo Gyeon Park, Postech Univ.
IEEE Council on Design Automation	CEDA044	227	Seungjoo Yoo, Seoul National Univ.
IEEE Dielectrics and Electrical Insulation	DEI032	11	inactive
IEEE Education	E025	8	Eui-Sung Kang, Sunchon Univ.
IEEE Electromagnetic Compatibility	EMC027	26	inactive
IEEE Electron Devices	ED015	133	Yong Taek Hong, Seoul National Univ.
IEEE Electronics Packaging	EP021	32	Ki Jin Han, Dongguk Univ.
IEEE Engineering in Medicine and Biology	EMB018	122	inactive
IEEE Geoscience and Remote Sensing	GRS029	31	Hoonyol Lee, Kangwon Univ.
IEEE Industrial Electronics	IE013	109	Kanghyun Jo, Ulsan Univ..
IEEE Industry Applications	IA034	61	Jinwoo Ahn, Kyeongsung Univ.
IEEE Information Theory	IT012	51	Kyoungchul Yang, POSTECH
IEEE Instrumentation and Measurement	IM009	11	inactive
IEEE Intelligent Transportation Systems	ITSS038	38	Kyongsu Yi, Seoul National Univ.
IEEE Magnetics	MAG033	32	Jongil Hong, Yonsei Univ.
IEEE Microwave Theory and Techniques	MTT017	101	Jae-Sung Rieh, Korea Univ.
IEEE Nuclear and Plasma Sciences	NPS005	39	Yong Choi, Sogang Univ.
IEEE Oceanic Engineering	OE022	10	Sunchul Yu, POSTECH
IEEE Photonics	PHO036	44	Ju Han Lee, Univ. of Seoul
IEEE Power & Energy	PE031	146	Chul-Hwan Kim, Sungkyunkwan Univ.
IEEE Power Electronics	PEL035	90	Jaeho Choi, Chunbuk National Univ.
IEEE Professional Communication	PC026	1	inactive
IEEE Reliability	RL007	13	inactive
IEEE Robotics and Automation	RA024	121	Songwhai Oh, Seoul National Univ.
IEEE SIGHT	SIGHT	3	inactive
IEEE Signal Processing	SP001	173	Gibak Kim, Soongsil Univ.
IEEE Social Implications of Technology	SIT030	2	inactive
IEEE Solid-State Circuits	SSC037	226	Yong Moon, Soongsil Univ.
IEEE Systems, Man, and Cybernetics	SMC028	48	Seong Whan Lee, Korea Univ.
IEEE Tech. and Eng. Management	TEM014	7	inactive

IEEE Ultrason., Ferroele., and Freq. Control	UFFC020	39	inactive
IEEE Vehicular Technology	VT006	95	Jun Heo, Korea Univ..
	Total	1826	

- In 2017, IEEE Power and Energy Society reactivated Section Chapter (PE031) thanks to the effort of new chapter chair Prof. Chul-Hwan Kim.
- In 2017, 30 chapters are in active operation. 7 chapters received incentives from R10 by completing meeting reports and financial reportings in 2017.
- In 2017, Power and Energy Chapter (PE031) was newly formed yet showed strong activities including two seminars on Smart Power Flow Controllers for Smart Grid Applications and others. Dr. Kalyan K. Sen, one of the IEEE PES distinguished lecturers was invited to hold the seminar. 50 guests and 7 IEEE members attended the seminar. Three speakers were invited for the second seminar regarding power system planning for multiple renewable energy sources with simultaneous connection to power systems. 46 guests and 13 IEEE members attended the seminar.
- The section also has the Council on Electronic Design Automation (CEDA44), which showed the most active operations thanks to the services by the past-chair, Professor Soonhoi Ha, and new chair, Seungjoo Yoo, Seoul National University.

B.3 Professional and Continuing Education Activities

B.3.1 Professional Seminars and Workshops

IEEE Seoul Section had 4 Executive Committee Meetings, General Assembly and HMPC Dinner Meeting with the following professional seminars by the experts in electrical engineering and related areas.

- “Student Branch Activities on Arts and Technology Collaboration for Cultural Festives at Hongik University”, by Jonghyuk Lee (Hongik Student Branch Chair), Hongik University, Seoul. (Marh 23, 2017)
- “HW/SW Codesign Methodology and Its Application,” by Prof. Soonhoi Ha (Seoul National University), Ramada Plaza Hotel, Jeju. (Aug. 24, 2017)
- “Fashion Industry in the New Paradigm Era”, by Prof. Minjeong Park (Ehwa Women’s University), EWU, Seoul (Oct. 26, 2017).
- “Internet: The Past, The Present, and The Future,” by Prof. Sangheon Paek (Korea University), westin Chosun Hotel, Seoul (Dec. 28, 2017)

B.3.2 Professional Conferences

IEEE Seoul Section hosted one international conference and co-sponsored two international conferences as follow:

- 2017 IEEE Smart Tech Workshop (STKorea): July 14, 2017 at The-K Hotel, Seoul. (hosted by Seoul Section)
- 2017 International Conference on Industrial Engineering, Management Science and Application (ICIMSA): June 13-15, 2017 at Best Western Premier Seoul Garden Hotel, seoul. (co-sponsored by Seoul Section)

- 2017 20th Conference of the Oriental Chapter of the International Coordinating Committee on Speech Databases and Speech I/O Systems and Assessment (O-COCOSDA): Nov. 1-3, 2017 at Seoul National University Hoam Convention Center, Seoul. (co-sponsored by Seoul Section)

The detailed programs and outcomes of 2017 IEEE Smart Tech Workshop will be outlined in C.1 Special Events section below.

B.4 Students Activities

B.4.1 Student Branches

IEEE Seoul Section has 15 student branches in 2017 including two newly formed branches, **Chonbuk National University** and **Seoul National University of Technology**. Each student branch consists of undergraduate and graduate students ranging from 1 to 214. Each student branch was operated independently under the supervision of the student branch counselor of the section. The following are student branches of Seoul Section:

Organizational Unit Name (Number of Members)	Position	First Name	Last Name	Email Address
Ajou Univ.(31)	Counselor	Ikmo	Park	ipark@ajou.ac.kr
Catholic Univ. of Korea (1)	Chair	Sang-Hyun	Cho	cshgreat@catholic.ac.kr
	Counselor	Hang-Bong	Kang	hbkgang@catholic.ac.kr
Chonbuk Natl Univ. (20)	Counselor	Yongsug	Suh	ysuh@jbnu.ac.kr
Chung-Ang University (21)	Counselor	Jong-Soo	Choi	jschoi@cau.ac.kr
Dankook University (2)	Chair	Jin	Park	pjk9466@nate.com
	Counselor	CheonWon	Choi	cchoi@dku.edu
Ewha Woman's Univ. (15)	Counselor	Meejeong	Lee	lmj@ewha.ac.kr
Hongik University (27)	Chair	Jonghyuk	Lee	aaiiwitf@gmail.com
	Counselor	Albert	No	albertno@hongik.ac.kr
Korea University (113)	Counselor	Chang-Sung	Jeong	csjeong@korea.ac.kr
Kyungsung University (3)	Chair	Grace	Lukman	grace.firsta@gmail.com
Seoul Natl University (214)	Counselor	Jong	Park	parkjk@snu.ac.kr
Seoul Natl Univ of Tech(25)	Chair	Adhithira	Naradhipa	adhithira.madhyasta@
Seoul Natl University (214)	Counselor	Sewan	Choi	schoi@seoultech.ac.kr
Sogang University (43)	Chair	Sungho	Kim	samkim@sogang.ac.kr
	Counselor	Jin Ho	Chang	jhchang@sogang.ac.kr
Soongsil Univ (16)	Counselor	Young Han	Kim	younghak@ssu.ac.kr
Sung Kyun Kwan Univ (51)	Counselor	Joong Kyu	Kim	jkkim@skku.edu
Yonsei Univ (108)	Counselor	Chulhee	Lee	chulhee@yonsei.ac.kr

B.4.2 Student Activities

To activate student branches, IEEE Seoul Section promoted and supported student branch activities as following:

- Promoted R10 Student Paper Contest: Sarbajit Paul (Dong A Univ.) won the 2nd Prize with \$150 award money.

- Promoted R10 Student Video Contest: Hongik Student Branch won the 2nd Prize with \$300 award money.
- Support Hongik University Student Branch's AAT (Arts Attract Technology) Festival. This two day festival attracted more than 200 visitors with more than 10 VR and AR art exhibition items and 30 volunteers.
- Support exchange students with Tokyo Section: Seoul Section sent Ms Nayoung Hong to present a paper at Tokyo Section's TOWERS Student Paper Contest, and invited 5 students and 2 advisers to Seoul Section's Student Paper Contest from Japan.
- Organized 2017 Student Paper Contest: This year, we had 42 papers from Korea and Japan. Among them, 1 grand prize, 4 gold prizes, 8 silver prizes, and 34 bronze awards were bestowed. The detailed programs and awardees will be outlined at the B.6.

B.5 Affinity Group Activities

- Young Professional (YP): In 2017, IEEE Seoul Section launched the Young Professionals Affinity Group activities by appointing a chairperson. Prof. Albert No was appointed as the new chair of YP affinity group of Seoul Section which has 1,509 members as of October 1, 2017. He gave an address at 2017 Smart Tech Workshop Reception in front of 110 participants who were mostly young professionals from universities and industries. The YP activities will also be boosted via TENCON 2018 by organizing and incorporating Young Professional Sessions in the programs.
- Women In Engineering (WIE): in 2017, WIE Coordinator, Sang Mi Lee organized a WIE luncheon during 2017 Smart Tech Workshop where 2017 IEEE President and CEO Karen Bartleson gave a speech for WIE and Students.
- Life Member: The 42nd HMPC(Higher Membership Promotion Committee) 2017 Dinner Meeting was held on December 28th at Westin Chosun Hotel, Seoul with more than 90 participants, to promote members to higher grades. The event consisted of an award ceremony honoring two IEEE 50 years loyal members, Prof. Souguil Ann and Former Misister Dr. Seungtaek Yang. Seoul Section witnessed 50 years loyal members for the first time in the section's history. The event also recognized 10 volunteers for their outstanding services to Seoul Section, followed by a special lecture by IEEE-IEIE Joint Award Winner, Prof. Sangheon Paek. The HMPC Meeting was also highlighted by a semi-classical mini-concert of three male singers along with dinner served. HMPC was established 42 years ago for the purpose of providing attention to the electrical and electronics engineers who have been unnoticed and rendering wider publicity to their distinguished service to Korea. The HMPC 2017 has been an important meeting in the light of its purpose!

B.6 Awards & Recognition Activities

- R10 Recognition and Appreciation
 - Prof. Souguil Ann, for the services as the R10 Director
 - Dr. Junhg Uck Seo, for the services as the R10 Director
- IEEE 50 years loyal member certificates and plaques:

- Prof. Souguil Ann, who served as Seoul Section Chair, R10 Director, and IEEE BOD Secretary.
- Dr. Seungtaek Yang, who served as Minister of Information and Telecommunications
- Seoul Section's Recognition and Appreciation
 - Prof. Dae-Gwon Jeong for his services and leadership as 2015-2016 Seoul Section Chair.
 - Prof. Inkyu Lee for his services as the organizing committee chair of IEEE Smart Tech Workshop 2017.
 - Prof. Sanghyun Lee for his services as the publication chair of IEEE Smart Tech Workshop 2017.
 - Prof. Jinyoung Hwang for her services as the web coordinator of IEEE Seoul Section.
 - Prof. Seungjoong Shin for his services as the HMPC Coordinator.
 - Prof. DongMyung Lee for his services as the organizing committee chair of 2017 Student Paper Contest.
 - Prof. Albert No for his services as the local arrangement chair of 2017 Student Paper Contest.
 - Mr Jonghyuk Lee for his services as the Student Representative at Smart Tech Workshop 2017.
 - Mr Jin-woo Yoon and Jae Young Kwon for their services as the volunteers at 2017 Student Paper Contest.
- Student Paper Award: Listed at Section C.1.2
- R10 Student Paper Award : Sarbajit Paul (Dong A Univ.) – US\$150.
- R10 Student Video Award : Hongik Student Branch - US\$300.
- IEEE/IEIE Joint Outstanding Young Engineer Award 2017 was given to Professor Sangheon Paek of Korea University for his outstanding contributions to mobile networks and communications studies.

B.7 Communication Activities (Newsletter, Home Page, E-mail etc.)

- Newsletter: IEEE Seoul Section's Report were distributed 6 times among the section members, 3 times for the section activity reports, twice for the Smart Tech workshop participation, and once for the student paper contest.
- Home Page of the Section was opened at <http://sites.ieee.org/seoul> thanks to the efforts of web coordinator Prof. Jinyoung Hwang of Korea Aerospace University. The web pages were updated regularly.
- Unofficial facebook pages were open at <http://www.facebook.com/ieee.seoul> for Smart Tech Workshop. Its official web site was <http://www.smarttech2017.org> .
- Web site for IEEE TENCON 2018 was opened at <http://www.tencon2018.org>

B.8 Industry Relations

- The metropolitan workshop series was organized and hosted for the first time in Seoul Section's history. IEEE Smart Tech 2017 was held to deal with industries' most sensitive issues on standardizations on 5G and IoTs. The plenary speakers included IEEE President and former Standard Society President Karen Bartleson. The detailed outlines will be given in C.1 section.
- The milestone committee was launched in 2017 for the industrial achievements to be recognized by the IEEE Milestone Plaques. The first stage agenda was selected among the public CDMA services, gigabit memories, and other entrepreneurs in Korean industries. The history of CDMA development in Korea was presented at HISTELCON 2017 (Kobe, Japan) by Dr. Jung Uk Seo, former Minister of Science and Technology and the past R10 Director.
- R10 Director Kukjin Chun, IEEE President Karen Bartleson, and Prof. Byung Gook park and Changhyun Kim visited Samsung Electronics and Hyundai Automobile Research Center promoting cooperation between IEEE and industries in Korea.

B.9 Humanitarian Technology Activities

- Humanitarian Technology Activities were planned to launch during the TENCON 2018.
- SIGHT Activities were also planned to launch during the TENCON 2018.

B.10 Community Activities

- IEEE AAT Festival was held at Hongdae and attracted more than 200 visitors ranging from toddlers to professors emeritus. That exhibition had about 10 booths displaying art items combining AR and VR technologies using video, audio, robots, and drones.

PART C - OTHERS

C.1 Special Events:

C.1.1 IEEE Smart Tech Workshop 2017 (<http://www.smarttech2017.org>)

- IEEE Smart Tech Workshops, the IEEE Metropolitan Workshop Series, aimed to provide participants with a unique learning experience with topics on the cutting edge of technical innovation. These one day seminars were focused on providing an opportunity for participants to learn first-hand from field experts. Each workshop has been a springboard to a deeper understanding of technology and its myriad applications and potential for innovation.
- Organizing Committee: Chair: Inkyu Lee, Publications: Sanghyun Lee, Web: Jinyoung Hwang, Special Activities: Sang Mi Lee (WIE), Albert No (YP), Jonghyuk Lee (Student), and others.
- Program

Time	Contents
9:30 – 10:00	Registration and Standing Breakfast

10:00-10:10	Opening and Welcome
10:10-10:55	Plenary Talk : IEEE Vision and Engineering in 2020 – Karen Bartleson (IEEE President)
10:55-11:10	Coffee Break
11:10-12:00	Future Strategy for Industry 4.0 or 4th Industrial Revolution Era - Heung-No Lee (GIST)
12:00-13:30	Lunch
13:30-14:20	5G: From Vision to Reality - Wonil Roh (Samsung Electronics)
14:20-15:10	5G Paving the Road to the Networked Society - Youngjoon Kim (Ericsson-LG)
15:10-15:25	Coffee Break
15:25-16:15	Key Standardization trends and Related Core Technologies in Multimedia - Sungho Choi (Samsung Electronics)
16:15-17:05	Recent standard trend and technologies of content production, compression, service delivery, connectivity, and device reproduction - Jae Cheol Kwon (KT ICT)
17:05-17:20	Coffee Break
17:20-18:15	Panel Discussion : Role of standardization in 4th industrial Revolution Era • Heung-No Lee (moderator), GIST • Sungho Choi, Samsung Electronics • Hyeong Ho Lee, ETRI • Min-Kon Kwak, SK advisor • Yongjae Rim, Director of ICT convergence, NRF

- Program Abstracts
 - **Plenary Talk : IEEE Vision and Engineering in 2020**
 - Speaker : Karen Bartleson (2017 IEEE President and CEO)
 - Abstract
 - Technical standards play an important role in business as well as everyday life. They drive the functionality, capabilities, and interoperability of a wide range of products and services that transform the way people live, work, and communicate. Existing technical standards are being updated constantly, and new ones are being produced in increasingly greater numbers.
 - In this presentation, 2017 IEEE President, Karen Bartleson will discuss the important role IEEE plays in nurturing, establishing, and advancing global technologies through the facilitation of standards development, consensus building, and collaboration activities. A Past President of the IEEE Standards Association, Karen will discuss the standards development process and share her experience with and practical insights for creating technical standards.
- **Future Strategy for Industry 4.0 or 4th Industrial Revolution Era**
- Speaker : Heung-No Lee (GIST)
- Abstract

- In this talk, I will spend some time on understanding the wave of new technologies represented by “Industry 4.0” and “the 4th Industrial Revolution.” Smart Factory, Big Data Analytics, Artificial Intelligence and Robots, mostly led by a small group of leading tech companies in Germany and United States, are expected to come deep into our lives and on the course to change our lives fundamentally. The technologies are good. They certainly bring efficiency and convenience to our lives, less hard labours and less strenuous brain work we will have to do. But our social system is old and not efficient. Because of this, fast social changes driven by new technologies cause instability. People will lose jobs. The changes are too fast for most of us to adopt. If we let it evolve on their own, a lot of people may fall into predicament. Problems we must address include social injustice driven by income inequality. The level of productivity increase enabled by the so called disruptive technologies is expected to be very high. But the profit generated from these technologies will easily be trapped within a small group of technological elites, while the income of the ordinary people are taken away from them. Of course, new markets will open up, and new jobs will be created along with them. But they are mostly for the technological aristocracy who can use new technologies for solving problems, discovering new opportunities and making profits; unfortunately, not for ordinary people who lost their jobs in the process. Widening income inequality has been the noted problem of the digital transformation era, which has grown deeper for the last couple of decades in most industrialized countries; the society has been divided and conflicts among different social groups have been aggravated. The tsunami of new technological wave will worsen this already very challenging problem. The population in Korea, as in most industrialized countries, is growing old very fast. Young folks are not marrying and married couples do not plan for babies. In this talk, I aim to discuss how Korea as a nation is preparing to embrace this grand challenge in the era of 4th industrial revolution. Changes are deemed necessary including education, workplace relations, budget distributions for research and developments, responsive government systems, tax and welfare systems, fair trade relations between conglomerates and small businesses. Even a new constitution is in discussion. All these efforts are aimed at making sure a very simple thing: technology is for people.

- **5G: From Vision to Reality**
- Speaker : Wonil Roh (Samsung Electronics)
- Abstract
- With the ever-increasing demands on mobile data traffic, stronger requirements on latency and reliability of novel mobile services, it becomes more challenging to meet those diverse needs by sheer migration of the existing cellular technologies. Consequently, 3GPP set out 5G standardization to accommodate those needs with evolutionary technologies in April 2016.
- Samsung’s innovative and pioneering technologies are now being used in the most advanced 5G trials yet and are helping to lay the foundation of critical 5G standards. Through research partnerships spanning the industry value chain, Samsung and its global partners are now demonstrating the viability of some of the first practical use cases, including fixed wireless access.
- The industry is now in need of productive ecosystem spanning the entire value chain that is capable of delivering on the promises of 5G. Samsung is actively working to make that a reality, in order to kick start tangible 5G applications.

- **5G Paving the Road to the Networked Society**

- Speaker : Youngjoon Kim (Ericsson-LG)
- Abstract
- 5G has been the global hot topics. 3GPP and other standard bodies are actively working on 5G standardization. This talk introduces the Network Society vision to be realized with 5G technology. Network society will be depicted with the life style change, industry trend and application evolution. 5G technology developments are not limited to the wireless communication itself but also network architecture, device, application, management and eco-system. This talk describes current status of the 5G standardization, 5G architecture, and key enabling technologies both for core network and access. It also shows 5G use cases and its demonstration status

- **Key Standardization trends and Related Core Technologies in Multimedia**
- Speaker : Sungho Choi (Samsung Electronics)
- Abstract
- Multimedia has been continuously evolved in a direction of not only higher resolution, but higher immersion. The television and mobile displays as of today are developed to reproduce more immersive presence by enabling higher resolution with various cutting-edge technologies, such as High-Dynamic Range (HDR). In addition, a new form of device such as Virtual Reality (VR) has been emerged and getting popular as a new way of consuming multimedia.
- Along this development, multimedia standard has been greatly contributed to enlarge the entire ecosystem. Having standardized technologies in public, all the industries involved are able to produce the contents and devices which are compliant each other, so that the entire markets could spread over without fragmentation or confusion to the viewers.
- Various parts of multimedia standard such as contents production, compression, service delivery, connectivity, and device reproduction will be introduced, including recent trend and technologies of each part. Particularly, UHD Alliance (UHDA) is one of the key alliance, coordinating content and device standard. MPEG's latest technology of compression and delivery standard, High Efficiency Video Coding (HEVC) and MPEG Media Transport (MMT), respectively, are now over the horizon. Also, the transmission system to broadcast the contents to the devices will be presented, including ATSC3.0 (Advanced Television System Committee) which is IP-based 4K terrestrial broadcasting standard for Korea and North America.

- **Recent standard trend and technologies of content production, compression, service delivery, connectivity, and device reproduction**
- Speaker : Jae Cheol Kwon (KT ICT)
- Abstract
- In this talk, We will spend some time on understanding the history of the audio and video standard encoding technologies that have been driven by the two major trends of the media standardization organization, namely the MPEG and the ITU-T, and examines the future standards and services. Recent developments in the evolution of the latest media services, which have revolutionized the evolution of telecommunications and broadcast standards in communications and broadcast sectors, predict the emerging trends of new technologies and the features of the services they seek to pursue the future of the emerging media market. Discuss the concepts of concepts, services, and market leaders, such as the Free View Point and the 3D Audio Format (OMF), OMF, and 3D Audio Format, including the

FVC.

- **Panel Discussion : Role of standardization in 4th industrial Revolution Era**
- Speaker : Heung-No Lee (GIST) – moderator, Sungho Choi (Samsung Electronics)
- Hyeong Ho Lee (ETRI), Min-Kon Kwak (SK advisor), Yongjae Rim (NRF)



- Participants : 119 members
- Financial report to Seoul Section is as following:

Item	Amount (Won)	Net (Won)
Registration and Sponsoring	24,603,000	
Expenses (Meetings and facilities)	21,437,220	Surplus 3,165,780

C.1.2 Student Paper Contest (<http://sites.ieee.org/seoul>)

- The Student Paper Contest 2017 was held at Hongmungwan, Hongik University on Dec. 02, 2017. It is an annual convention of IEEE Seoul Section to promote student members' technical paper publications. Outstanding papers selected from the contest will be granted a privilege to participate in IEEE Region 10 Student Paper Contest 2018 and other international events. A total of 42 papers were presented and evaluated in 4 areas with 4 sessions: 8 papers in Electronic Circuits and Semiconductor, 9 papers in Power Systems, IOT, and Software Technologies, 10 papers in Signal Processing and Computing, 10 papers in Communications and Computing, and 5 papers from IEEE TOWERS. 1 Grand Prize, 4 Gold Prizes, 4 Silver Prizes and 33 Bronze Prizes were awarded.
- The committee members and the recipients of the 2017 Student Paper Contest Prizes were as follows:

- Organizing Committee
 - Organizing Chair: Prof. DongMyung Lee (Hongik University)
 - Technical Program Committee: Cheon Won Choi (Chair, Dankook U.), Yoonhee Kim (Sookmyung Women's U.), Kyeon Hur (Yonsei Univ.), Soyoung Kim (Sungkyunkwan Univ.), Ki Jin Han (Dongguk Univ.), Albert No (Hongik Univ.), Jinyoung Hwang (Korea Aerospace University)
- Award Recipients
 - ✓ Grand Prize:
 - Taehyun Kim and Jun Heo (Korea University), Information-Propagation-Based Scheduling for the Fast Convergence of Shuffled Decoding.
 - ✓ Gold Prizes:
 - Min Ju Yun, Sungho Kim, and Hee-Dong Kim (Sejong University), Self-rectifying Resistive Switching Observed in Nickel/Aluminium-Oxide/p-type Aluminium-Gallium-Nitride Based Metal Insulator Semiconductor Resistive Random Access Memory Devices.
 - Heecheol Yang and JungWoo Lee (Seoul National University), A Scalable Framework for Secure Distributed Computing.
 - Bao Tran Truong and L. Kulathunga (SUNY Korea), A Mixed-reality Board Game to Foster Computational Thinking in Middle School Students.
 - Sohei Matsuda (Osaka Institute of Technology), New type diodes using oxide semiconductors toward fully transparent and flexible electronics.
 - ✓ Silver Prizes:
 - Jongin Kim, Sungyoon Song, Taehyung Kim, and Gilsoo Jang (Korea University), A Stability analysis for the determination of droop coefficient in AC/DC Hybrid System.
 - Dong-Gu Lee, Jin-Ki Kim, and Jae-Hyun Kim (Ajou University), Performance Evaluation of Full-duplex MAC Protocol Depending on Ratio of Full-duplex and Half-duplex node.
 - JungBeom LEE and Sungroh Yoon (Seoul National University), Video Sequence Prediction with Motion-Content Network using Optical Flow.
 - Dongjun Park and Jongsun Kim (Hongik University), An All-Digital Delay-Locked Loop for DDR3/4 SDRAMs.

C.2 Relationship with National and International Societies and Non-Government Organizations (NGO)

- IEEE Seoul Section signed MOUs with 7 national academic societies regarding technical co-sponsorship of IEEE TENCON 2018. The counterpart societies include: IEIE, KICS, IEEMS, KIISE, IEEK, KIPS, and OSK. The MOU outlined how to cooperate to boost paper submission among participating society members in quality and in quantity.
- Benefit of the section members includes IEEE's enhanced exposures to disclose many technical chapter activities to non-members in highly correlated national society members. It is expected to boost local chapter activities by recruiting new members and volunteers.
- IEEE/IEIE Joint Outstanding Young Engineer Award 2017 was given to Professor Sangheon Paek of Korea University for his outstanding contributions to mobile networks and communications studies. The award ceremony was held in the IEIE 2017 Summer Conference.

- IEEE and KICS renewed the 3-year term of MOU between KICS President Y. Zho and 2017 IEEE President and CEO Karen Bartleson for the next 3 years 2018~2020.
- Besides the 7 academic societies, IEEE seoul Section has close relationships with other Korean technical societies such as The Korean Society of Broadcast and Media Engineers (KOSBE) and The Korean Institute of Power Electronics (KIPE). The IEEE Seoul Section provides technical supports to these societies.

C3. Collaboration with other IEEE Sections

- IEEE Seoul Section is the primary member of the Korea Council. The council convened twice in 2017. The first meeting was at Daejeon, and the second was at Seoul. These regular meetings played a pivotal role for cooperation and sharing of current concerns and future planning.
- In 2017, the student paper contest and HMPC meeting were highlighted by incumbent council chair and chair-elected's presence.

C.4 Support extended to Sub-sections & Society Chapters within the Section

- IEEE Seoul Section supported in providing certified bank account for the chapter activities and student branch activities in case of needing event registrations. Issuing legalized receipts for registration was established as a non-profit public institute. Further processes were under pursuit for full handling of online and offline transactions.

C.5 Best Practices of your Section (which you would like to share with other Sections for the benefits of members)

- In 2017, Seoul Section witnessed two IEEE 50 years loyal members who kept their membership for the last 50 years. Recognizing and appreciating their consistent services and membership by keeping all the records of their services proved IEEE's commitment to volunteer appreciation. Both loyal members appreciated the recognition.

C.6 Problems anticipated and suggestions for solutions, if any

- Section operations heavily depend on SAMIEE or vTools, which are very slow and sometimes uneasy to use. Faster and user-friendlier services are anticipated.

PART D - GOALS AND PLANS

D.1 Hosting IEEE TENCON 2018, October 28-31, jeju, Korea

It is our great honor to host this prestigious event in Korea. The main theme of the conference aligns with the IEEE goals and visions for advancing technology for humanity. IEEE has witnessed technology outbreak through energy, electricity, and information technology during the last century. Now it's the beginning of the intelligence era. We believe that all IEEE members are standing in its frontier lines. So please give us a smile and let the new era develop beautifully in IEEE TENCON 2018.

The major objectives of the TENCON conference series are given as follows:

- To provide a prestigious international forum for specialist presentations and interactions in one or more areas of Electrical, Electronics, Computer and Information technology through papers, exhibitions, plenary talk, tutorials, etc;
- To contribute to the development, progress and welfare of countries in the Asia-Pacific region by disseminating technological knowledge and experience;
- To encourage the study and discussion of technology and technological applications in a broad social, political and human context;
- To polish and boost the interpersonal and professional skills of volunteers with the guidance of leaders and the renowned personalities in the respective field of Engineering & Technology.
- To enable Sections within Region 10 to develop as mature IEEE entities by accepting the responsibilities of major conference organization.

IEEE TENCON 2018 organizing committee will do best to fulfill those objectives. Here are some of the key initiatives:

- Committed to maintain reputations of the R10 flagship technical conference by organizing expert program committee and quality programs.
- Committed to provide open platforms for WIE, YP, SAC, LM, and other professional activities for all IEEE members as well as non-members.
- Committed to facilitate IEEE's vision for enhancing technology for humanity by incorporating IEEE's new initiatives.
- Committed to hospitality and friendship for all participants as members of one big community of IEEE.

The important dates and detailed program can be found at www.tencon2018.org

- 1st Call for Paper: November 4, 2017~ February 20, 2018
- Web site open : February 5, 2018 (Paper submission site open)
- Preview Presentation: March 4, 2018 at R10 AGM Meeting, Langkwai, Malaysia
- 2nd Call for Paper: March, 2018
- Paper Submission Deadline: May 21, 2018
- Notification of Acceptance: July 23, 2018
- Final Paper Submission Deadline: August 27, 2018
- Earlybird Registration Deadline: August 27, 2018
- Conference Date: October 28(Sun)-31(Wed), 2018

The registration fees are as following:

Category (USD)		Earlybird	Regular	On-site
		By August 27	By October 1	After October 1
Regular	IEEE Member	\$600	\$660	\$800
	IEEE Non-Member	\$700	\$770	\$900
Student	IEEE Member	\$400	\$440	\$600
Life Member	IEEE Non-Member	\$500	\$550	\$700

D.2 Goals and Future Plans

The IEEE Seoul Section will hold the spirit of the IEEE and align section objectives to the working plans of R10. The section has several active plans for the year of 2018 and 2019. Some of work items are listed below.

- Organize TENCON 2018 to adhere to IEEE Mission & Vision through the proposed themes - Intelligence Outbreaking: IT Outreach (Oct. 28-31, 2018, Jeju, Korea)
- Encourage academia-industry cooperation through the workshop/workbench series
- Increase retention rate by promoting new industry memberships
- Promote student branch activities such as Student Paper Contest, IEEE Day and IEEE Undergraduate Student Idea Contest
- Promote membership elevation to higher memberships
- Support technical activities for chapters in Seoul Section
- Strengthen member service for all section members through website by providing appropriate contents without visiting IEEE main-page
- Enhance membership and fellowship through the annual higher membership promotion committee(HMPC) activities
- Invite volunteer officers to the updated applications and manuals for membership development and conference organizations through the officer workshops
- Publish section newsletter to communicate with other members in the section.
- Collaborate more closely with other academic societies of Korea including IEIE (IEE K), KICS, KIEE, KIEES, KIISE, KIPE, KIPS, KOSBE, and OSK.
- Support and encourage members to participate in Region 10 activities as well as HQ activities

D.3 Any innovative ideas to make IEEE more creative and value added for sustaining the membership retention and recruitment goals.

The IEEE Seoul Section will hold the spirit of the IEEE and align section objectives to the working plans of R10. We value humanity and we value recognition and appreciation. The section will continue to honor the services of volunteers and members by recognizing and appreciating through media, newsletter, and meetings. Not only the services of the individuals, but also the achievements of chapters, branches, and industries will be disclosed for recognition through the Milestone plaques, awards, prizes, badges, and certificates.

D.4. Business Plan for Sustainable Growth and Financial Stability.

The IEEE Seoul Section will maintain a good balance in the year of 2018. As we observed that the contribution part exceeded IEEE support by more than twice last year, we will continue to hold that ratio through workshop registration fees and local government support. The expenditure will be allocated for the key initiatives with more priority yet keeping all the section's vital activities functioning. The tentative budget will be as following:

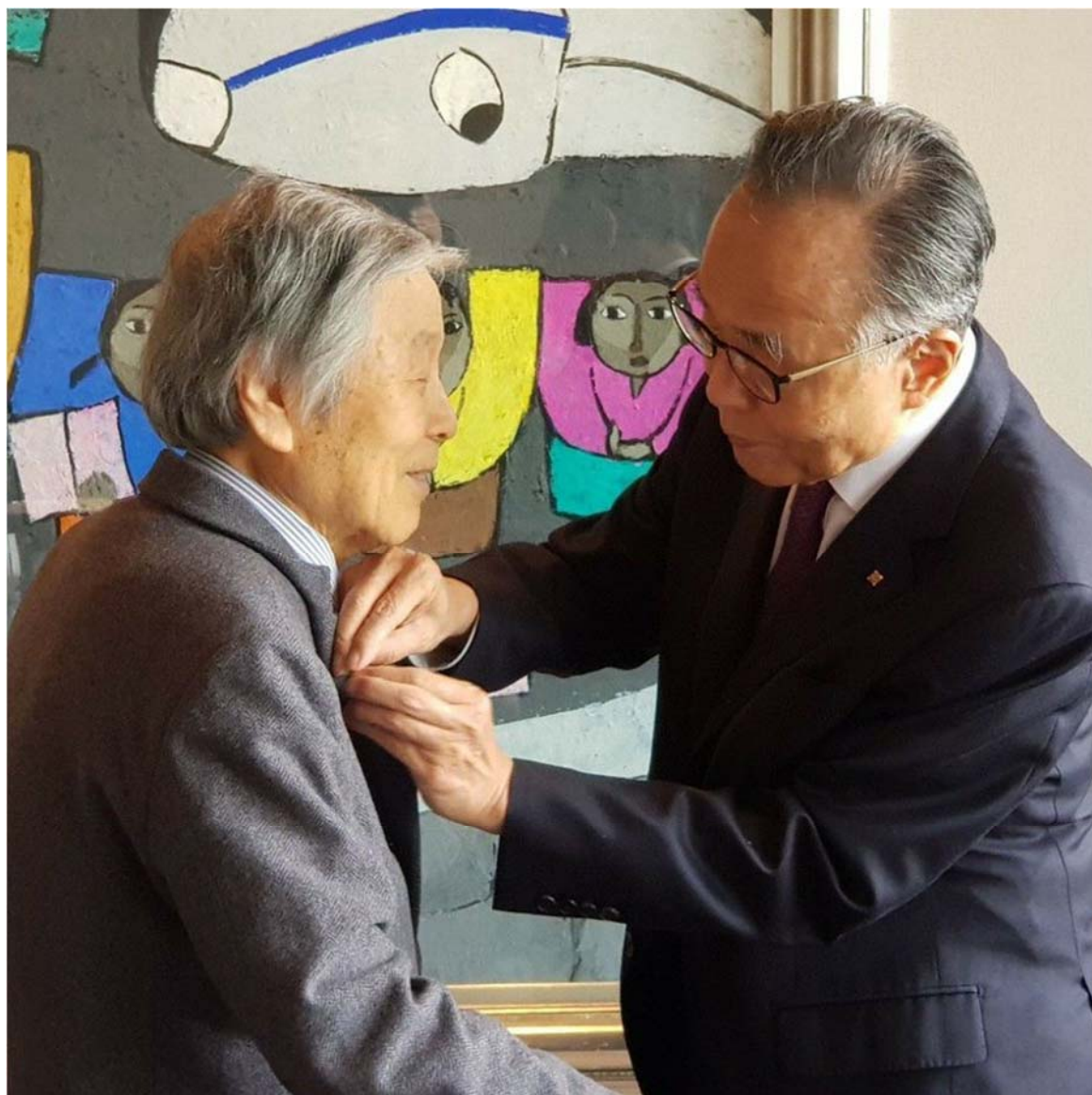
1. Income

Item	Amount (Won)
IEEE Support	20,000,000
Contribution (registration, sponsor)	40,000,000
Interest	0
Total	60,000,000

2. Expenditure

Item	Amount (Won)
Metropolotan workshop series	3,000,000
Young Professionals activities	2,000,000
Industrial activities	3,000,000
Student Paper Contest	6,000,000
Student Branch Activities	2,000,000
WIE Activities	2,000,000
IEEE Day Activities	2,000,000
Membership Development	2,000,000
Chapter Activities	2,000,000
Web/SNS operations	2,000,000
HMPC events	13,000,000
Education activities	2,000,000
Meetings and services	5,000,000
Awards and Recognition	4,000,000
Total	50,000,000

[Photograph 2]



Dr. Seo, former IEEE Region 10 director, is attaching a badge for Prof. Ann Souguil who is the first loyal member of 50 years in Korea