



This issue reports lecture meetings and technical tours that were held recently as well as events of MAW in Nagoya and TENCON 2018.

1. Lecture meeting by the History Committee of IEEE Headquarter

The lecture meeting by History Committee was held on Wednesday, August 9, 2017, at Kikai Shinko Kaikan with 23 participants. This lecture meeting was sponsored by IEEE Tokyo Section History Committee and cosponsored by Technical Program Committee, Life Members Affinity Group: LMAG, and Japan Council Women in Engineering.

In this lecture meeting, the following members participated from IEEE History Committee and History Center.

- Michael N. Geselowitz
Senior Director, IEEE History Center
- Allison Marsh
Chair, 2017 IEEE History Committee
- David Burger
Chair, 2014 IEEE History Committee
- Jason K Hui
Chair, IEEE Region 1 Northeastern Area

Mr. Geselowitz introduced the activities of History Committee and History Center. History Committee is a Committee of the IEEE Board of Directors, and History Center was settled in 1980. History Committee is responsible for promoting the collection, writing, and dissemination of historical information about IEEE technical and professional activities, as well as historical information about the IEEE and its predecessor organizations. Especially women engineers and professionals activities are taken into its scope. Ms. Marsh explained this activity.

History Committee began the IEEE Mile Stone in

1983, and it holds two face-to-face meetings per year.

History Center opened in 1990 at Rutgers University, and then moved to Stevens Institute of Technology in 2014. Most of the Center's resources are available online at the Engineering and Technology History Wiki. Visiting scholars and researchers are welcome to use the research library and archives.



Fig.2 D. Burger, A. Marsh, J. K Hui, and M. Geselowitz from left

2. The lecture and study tour to Yosami Transmission Station, an IEEE Milestone

The Life Member Affinity Group (LMAG) of Tokyo Section, Japan held the tour to Yosami Station at Kariya city near Nagoya on October 6, 2017. The station was acknowledged as a milestone in 2009. The event was planned to be an IEEE Days, and placed before another IEEE Days, the Metro Area Workshop held by Nagoya Section.

It was the first time to hold an event out of the Kanto District near Tokyo. The participants gathered at 14:30 at the station. it rained unluckily, but 13 participants gathered, and 11 volunteers of Yosami Station Museum contributed to the explanation and guide.

Lecture

The lecturer was Prof. Emeritus of Nagoya Institute of Technology, Eisuke Arai who was the Chair of Tokai Section of IEICE and endeavored for the acknowledgement of the station as a milestone. He told that the international communication of Japan at that time was controlled by the great powers, especially by an English company. To achieve a



Fig.1 Mr. Geselowitz giving his talk

breakthrough, the station was planned to enable global communication using radio frequency (RF). The communication system including an RF generator was manufactured by Telefunken of Germany and imported. Without heavy machines that are popular nowadays, they had much difficulty in the transportation and installation. Finally, the system was put into use in 1929.

The most significant component is the RF generator that was driven by a DC motor. The rotor with 256 poles rotated at 1360 revs/minute to generates 700 kW at 5.8 kHz. The frequency was tripled to make a communication carrier at 17 kHz using the non-linearity of magnetic materials. The carrier was a single spectrum, as was quite different from the arc-generated carrier that was actually a group of noises. Moreover, there were a switching circuit to make codes of telegraphy, and 2 huge antennas each of which was 1800 m in length and 250 m in height.

In the World War 2, the Yosami Station was used for sub-marine communications, and after the War, the USA army ordered to close and utilize again. The antennas and internal equipment were taken away in 1997 and 2006, respectively. Before that, one of the generators was analyzed. As the rotor weighs 16 ton and its gap between the stator is quite narrow, 1 mm, they had much difficulty. After all, the differences from Anderson generator were clarified.



Fig.3 Dr. Arai delivering his talk

Tour

After obtained much preliminary knowledge from the lecture, the participants first looked around the antenna tower outside of which the lower portion of 25 m was kept. the ways to support with wires and to insulate from the ground were explained.

Moving into the museum, they looked around while being told of internal equipment. a specialist of radio communications was surprised by the fact that the oscillator is an electric generator instead of transistors or vacuum tubes.

The participants were strongly impressed with

magnificent communication components. Especially, the insulating part of wood was well manufactured with less cracks than Japan made part so that they admitted the excellence of German technology at that time and the subsequent growth of Japanese technology.



Fig.4 A scene in the museum. Compare the scales with a person above stairs



Fig.5 Group photo of the participants and volunteers (Dr. Arai is at the center of the front row)

3. General meeting for the IEEE LMAG in Nagoya Section foundation

To date, there were IEEE LMAGs in Japan only in Tokyo and Kansai Sections. This year, a new LMAG was founded in Nagoya Section after vigorous movements. The application was approved by the IEEE Headquarters on July 12, 2017.

On October 7, 2017, the general meeting for the foundation of LMAG- Nagoya was held from 10:00 am, at the No. 172 conference room, the Library / Research building in Yagoto Campus of Chukyo University.

At the beginning, Dr. Inagaki, the first Chair of LMAG-Nagoya, gave a speech saying “I will make effort to create a structure of activities for Life Members in Nagoya Section, and to cooperate with LMAG-Tokyo and LMAG-Kansai.

Then, congratulatory speech of guests was given from the following stakeholders.

Tomonori Aoyama, LM Coordinator, IEEE R10
Tetsuya Miki, Chair, LMAG-Tokyo
Yukihiko Nakamura, Vice-chair, LMAG-Kansai
Yutaka Ishibashi, Chair, IEEE Nagoya Section

The officer members and activity plans for the first year were introduced and approved. The officers of LMAG-Nagoya are as follows.

Chair: Yasuyoshi Inagaki
Vice-chair: Masaya Ichikawa
Secretary: Akira Mizuno

Next, the general lecture entitled "Watching System with BLE Beacon with Directional Antenna" was held from Emeritus Prof. Akira Iwata.

4. Report of participation to IEEE MAW 2017 in Nagoya

The first MAW (Metro Area Workshop) in Japan was hosted by the Tokyo Section in 2014 and the second was hosted by the Kansai Section last year. This year, it was hosted by the Nagoya Section and was held at Yagoto Campus of Chukyo University in Nagoya on October 7 and 8, 2017.

The theme of MAW 2017 is "Future of both Automobiles and Japan". The first day of MAW began with the opening address by Yutaka Ishibashi, Chair of Nagoya Section, from 13:00 on Oct. 7. Four special lectures were given during the two days program.

On the first day, the following two special lectures were given.

- "Important issues of modern society and the role of electric, electronics, and information engineers"; Hiroyuki Sakaki, President, Toyota Technological Institute.
- "Innovation Strategy of Science and Technology in Japan and Expectation for Automobile Industry"; Kazuo Kyuma, Council for Science, Technology and Innovation, Cabinet Office, Government of Japan.

The panel discussion about "autonomous car" was carried out by panelists from industry, government and academia. One of impressive statement was fully autonomous operation at level 4 is likely to be realized much earlier than the time assumed before.

On the second day, the following two special lectures were given.

- "The new mobility systems formed with transformative electronics"; Hiroshi Amano, Professor, Nagoya University.
- "For realization of the hydrogen society: Toyota's environmental technology strategy"; Kiyotaka Ise, President, Toyota Advanced Technology Development Company.

In the afternoon, a technical exhibition by companies and SYWL Workshop were carried out. The panel discussion entitled "Mobile Unit developed by Next Generation Semiconductors" was performed.

Two days program of MAW 2017 was closed with a video message by Karen Bartleson, IEEE President,

and closing address by Akinori Nishihara, Region10 Director-Elect.

5. SYWL Workshop

This workshop was held as an event of IEEE MAW in Nagoya 2017. All Affinity Groups of SB (Student Branch), YP (Young Professionals), WIE (Women in Engineering), LMAG (Life Member Affinity Group) gathered together, and made discussions according to the following themes. The objectives are to expand the knowledges through and beyond generations and localities.

- A: The locality of Nagoya and its advantages.
- B: The way in which I have got to Nagoya.
- C: The career in industries and that in academia.
- D: Which do you like to play by yourself or in a team?
The way to improve the strategy to survive.
- E: To be a generalist or an expert?
- F: Career establishment and IEEE activities.
- G: How to make the current career more open and pleasant.
- H: The skill to live through a life of 100 years.
- I: The career of an individual and that of a family.
- J: How can an octopus get out its living bottle and extend its prospect?
- K: The way to enjoy the IEEE activities of IEEE.

The participants with different generations and special fields exchanged their information through discussion so that they obtained their experiences and ideas in common. Then, each group presented the results and made Q &A. Resultantly, this event contributed to improve the careers and skills of students, researchers and engineers, and to establish networks between them.



Fig.6 Group E members with their results in front

6. IEEE TOWERS workshop

TOWERS (Trans-disciplinary-Oriented Workshop for Emerging Researchers) is organized for young IEEE members, and is operated by student members. This workshop has continued for 14 years and this year it was held on November 4, at Katsushika Campus of Tokyo University of Science with more

than 100 participants.

All presentations were made in poster session by high school students, undergraduate students, graduate students, and young researchers. LMAG award started this year for honoring the significant presentation.

The opening ceremony was held on the 1st floor at Lecture building. The sponsors to TOWERS and the scheduled events were introduced.

Then the poster presentations were held on the 2nd floor of University Canteen building. The number of papers was 76. The poster papers were divided into 3 groups, and each group was allotted 45 minutes for presentation. The special feature of this workshop was that many awards were prepared such as workshop awards, sponsor awards, event award. .

Each paper was very interesting so that we could not have enough time to hear and talk to all presenters. Topics of papers were widely distributed: Information, Communication, Internet, Knowledge, Semiconductor Physics, Biology, and Sound technology.

After poster presentation, we moved to lecture building. Prof. Tetsuya Miki LMAG chair gave a talk entitled "Personal experience of R & D on ICT and Expectation to young researchers". He introduced the evolvement of digital communication systems from the coaxial cable to optical fiber cable. Owing to the optical fiber communication, the transmitted information volume extremely increased and more over the wavelength division multiplexing system made possible the transmission density over 1 Pbps.

Further for the purpose of the fiber system to the home (FTTH), the international standard meeting was organized as Full Service Access Network (FSAN). Recently mobile telephones are widely prevailed, and the optical fiber systems are used between the wireless base stations. This is the fused structure of wired and wireless networks. Lastly, he concluded with messages that it was important to correspond with researchers of competing organizations by attending international conferences, and that it was indispensable to propose new idea, make groups, and promote themselves positively in order to keep the motive force for research.

Award winners were introduced as follows;

<Sponsor Awards>

Hayato Nomura: Univ. of Tokyo
Saki Nishimura: Univ. of Tsukuba

<LMAG Award>

Sohei Matsuda: Osaka Inst. of Tech.

<TOWERS Awards>

• Event Awards

Haru Inoue: Yamawaki Senior High School
Kazuki Takahashi: Tokyo Univ. of Science

• Event Best Award

Shingo Sato: Keio Univ.

• WIE Best Award

Atsune Mitsui: Japan Women's Univ.

- Supporter's Group Award
Yu Kumita: Univ. of Nanzan
- Undergraduate Student Award
Hiroki Mitsui: Tokyo Univ. of Science
- Outstanding Poster Presentation Award
Sachiya Nomoto: Univ. of Gunma
- TOWERS Best Award
Yukiko Shinbo: Univ. of Waseda



Fig.7 Venue of the poster paper presentation on the 2nd floor of the left building



Fig.8 Poster paper presentation



Fig.9 Tetsuya Miki, LMAG Chair giving his talk

After awards ceremony, a social gathering was held at the university dining hall to get to know each other between steering members, presenters and attendants.



Fig.10 All participants of TOWERS workshop

7. Report of participation to TENCON 2017 and lecture by Dr. Takano

Dr. Takano, Vice-Chair, LMAG-Tokyo attended to TENCON 2017 which was held at Penang in Malaysia from 5 to 8, November, 2017. The objective is to exchange information in various technical fields in Region 10. The TENCON intends to bridge between theory and reality, and between technology and society under the slogan of "Bridging the Gap".

The total management was pursued by IEEE Malaysia Section whose chair was Dr. M. Faizal A, Fuzi. The chairs of the organizing committee are Prof. Norliza B.M.Noor and Prof. Zuhaira Zakaria, both



Fig.11 Dr. Faizal, Malaysia Section Chair, delivering opening address



Fig.12 Human chain in the opening ceremony

women. In general, volunteers, especially females were playing important roles.

There were four Plenary Talks. The first was IEEE President, Karen Bartleson, and explained the present status of IEEE. The second Talker expressed strong support to One Road One Belt policy.

The session "Humanitarian Technologies" gathered much attention, and the session room was full with some standing persons. The analysis results and prediction methods of environment change were presented. Again, female attendants were dominant.

Dr. Takano made a presentation entitled "The Space Solar Power System ~ Beneficial Power Source to Equatorial Countries ~". He introduced the system where a satellite in space generates electric power, transfer it to the ground in a beam, and supply it to the power grid. He pointed that the system is beneficial to equatorial countries as the satellite flies over the equator. This presentation was included in the session of conventional high power so that the audience seemed not familiar to the technology. Even so, there were four questions.

The total attendants counted about 600, and the most 3 countries are rated India, Malaysia, and Japan. From the conference and the circumstance of towns, it was seen that Malaysia was a young country and ladies are active in the society. Retired professors from Japan are playing important roles in those districts through JICA programs, as was meaningful.



Fig.13 Dr. Takano delivering his talk

8. Notification of submission invitation

This Newsletter is not only a unilateral report to LMAG members, but also a platform for the members to communicate each other. Please submit your report or article to the address below.

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