Tokyo Bulletin No.127

[December 24, 2020]

”First Operational Large-Scale Latent Fingerprint Identification System, 1982” and “First Commercial Digital Signal Processor Chip, 1980” IEEE Milestone Dedication Ceremony and Commemorative Lectures (The 8th Lecture Meeting of Tokyo Section in 2020)

●IEEE Milestone Dedication Ceremony

The “First Operational Large-Scale Latent Fingerprint Identification System, 1982” and “First Commercial Digital Signal Processor Chip, 1980” were certified as IEEE milestones. The dedication ceremony for IEEE milestones were held on December 15, 2020 at NEC Head Office. Dr. Toshio Fukuda, IEEE President, Professor of Meijo University, presented the plaque to Dr. Nobuhiro Endo, Chairman of the Board of NEC and Mr. Takashi Niino, the President and CEO (Representative Director) of NEC. The “First Operational Large-Scale Latent Fingerprint Identification System, 1982” was the 36th, the “First Commercial Digital Signal Processor Chip, 1980” was the 37th IEEE milestone in Japan.

Achievement on the plaque is as follows.

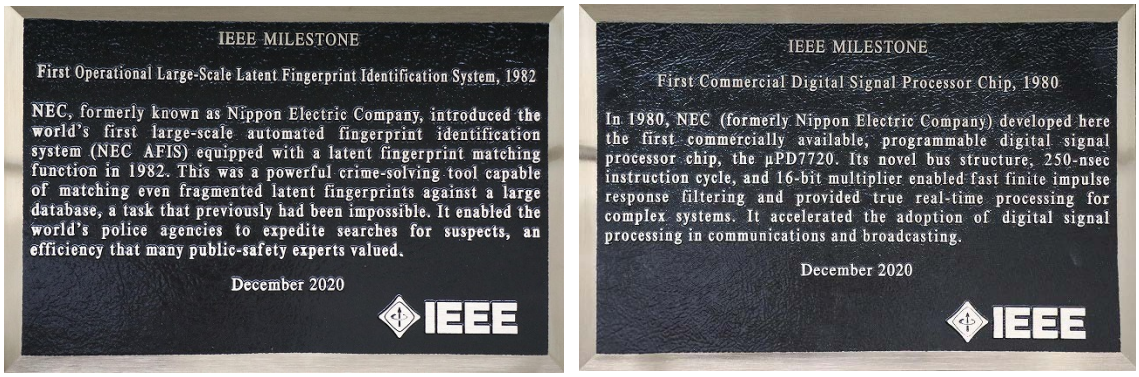
・First Operational Large-Scale Latent Fingerprint Identification System, 1982

”NEC, formerly known as Nippon Electric Company, introduced the world’s first large-scale automated fingerprint identification system (NEC AFIS) equipped with a latent fingerprint matching function in 1982. This was a powerful crime-solving tool capable of matching even fragmented latent fingerprints against a large database, a task that previously had been impossible. It enabled the world’s police agencies to expedite searches for suspects, an efficiency that many public-safety experts valued.”

・First Commercial Digital Signal Processor Chip, 1980

"In 1980, NEC (formerly Nippon Electric Company) developed here the first commercially available, programmable digital signal processor chip, μPD7720. Its novel bus structure, 250-nsec instruction cycle, and 16-bit multiplier enable fast finite impulse response filtering and provided true real-time processing for complex systems. It accelerated the adaptation of digital signal processing in communications and broadcasting."

A dedication ceremony hosted by IEEE Tokyo Section was held at auditorium of NEC Head Office. There were 164 attendees including online. The master of ceremonies was Dr. Yasuhiro Takishima, Secretary of IEEE Tokyo Section, Executive Director of KDDI Research, Inc. First on the agenda, Dr. Hideyuki Tokuda, Chair of IEEE Tokyo Section, President of National Institute of Information and Communications Technology, gave a speech as an organizer, followed by Dr. Toshio Fukuda. Next, plaques were presented by Dr. Toshio Fukuda to Dr. Nobuhiro Endo and Mr. Takashi Niino. Mr. Takashi Niino gave a speech on behalf of the plaque recipient. The plaques are put on display in Head Office of NEC (Minato-ku, Tokyo) and NEC Tamagawa Plant (Kawasaki, Kanagawa), respectively.



IEEE Milestone plaques

Commemorative photo of dedication ceremony

(From left) Dr. Hideyuki Tokuda, Chair of IEEE Tokyo Section, President of National Institute of Information and Communications Technology, Dr. Isao Shirakawa, IEEE Japan Council History Committee Chair, Professor of University of Hyogo, Dr. Toshio Fukuda, IEEE President, Professor of Meijo University.

Dr. Nobuhiro Endo, Chairman of the Board of NEC, Mr. Motoo Nishihara, Executive Vice President, CTO and Member of the Board and Mr. Takashi Niino, President and CEO (Representative Director) of NEC.

●Commemorative Lectures (The 8th Lecture Meeting of Tokyo Section in 2020)

Following the dedication celebration, the commemorative lectures (The 8th Lecture Meeting of Tokyo Section in 2020) was hosted by Tokyo Technical Program Committee and co-sponsored by IEEE LMAG Tokyo. The following five invited speakers gave lectures to 223 attendees including online. Dr. Tetsuya Kawanishi, Chair of Tokyo Technical Program Committee, Waseda University, proceeded to introduce the five lectures.

Lecture 1

Dr. Isao Shirakawa (Japan Council History Committee Chair)

“IEEE Milestones in Electrical Engineering and Computing”

Lecture 2

Mr. Yukio Hoshino (Former NEC Security Systems Director)

“Research on NEC/AFIS”

Lecture 3

Mr. Masanori Hara (NEC 2nd Government and Public Solution Division)

"Looking back on the Practical Realization of Operational Large-Scale Latent Fingerprint Identification System"

Lecture 4

Dr. Takao Nishitani (Former NEC Multimedia Research Laboratories. Director and Former Tokyo Metropolitan University Professor)

"Basic Architecture of μPD7720DSP"

Lecture 5

Mr. Yuichi Kawakami (NEC Capital Solutions Limited Adviser)

"Development History and Application of μPD7720DSP"

[Pictures]

(Reported by History Committee Secretary, Misato Sasaki)

The 2020 Forth Meeting of Tokyo Section Executive Committee

The 2020 Forth Meeting of Tokyo Section Executive Committee was held online at 2:00p.m. on December 2, with 32 participants including five observers.

◆Minutes *Japanese-only

IEEE Tokyo/Shin-etsu Joint Section WIE Kick-off Event

"WIE (Women in Engineering) in Tokyo and Shin-etsu"

The IEEE Tokyo/Shin-etsu Joint Section WIE Kick-off event was held online on December 5, 2020. This event was organized by the newly launched IEEE Tokyo/Shin-etsu Joint Section WIE and co-organized by IEEE Tokyo Section, IEEE Shin-etsu section, IEEE JC WIE, other Section WIEs, Tokyo YP, and Tokyo SAC. The total number of participants was 34 including IEEE members. The keynote speaker was Dr. Haruko Kawahigashi from Mitsubishi Electric Corporation's Information

Technology R&D Center. In her talk titled “Communication Network Technology and Carriers,” she talked the audience through her work career and gave us tips on how to survive in the workplace. The audience were motived and encouraged with her message of perseverance. “Do not think it’s your fault if something does not go well, sometimes you need to adjust your approach to your environment!”

At the break-out room session, participants of various ages, from students to working professionals, exchanged their opinions about the image of engineers required now and the working style required in the future. In this event, high school and technical college students joined us and we were very happy to talk with young talents.

Through this event, we could build networks of women engineers, researchers and students, not only within the Tokyo and Shin-etsu section but also with other sections. Our activity has just begun. Please look forward to our future events!

Some participants on the screen

(Reported by Tokyo/Shin-etsu Joint Section WIE Tokai University Interim Chair, Mamiko Inamori)

IEEE Japan SYWL Workshop in Hiroshima (and Online)

IEEE Japan SYWL Workshop in Hiroshima (and Online) was held at Hotel Hiroshima garden palace and on Zoom meeting on October 17, 2020. This workshop was organized by the committee members from Student Branch, Young Professionals Affinity Group, Women in Engineering and Life Member Affinity Group of all over Japan. There were 42 participants. Most of them were IEEE members.

The event consisted of five parts: Introduction, keynote, group discussion, presentation, and closing speech.

In the introduction part, Dr. Ryuichi Takemura, the executive chair of this event, provided a brief talk about the event to share the goal, which is "Pandemic to Opportunity – Collaborative Leadership Towards Technology Advancement for Humanity".

In the keynote part, Ms. Fumie Uchida from Micron Memory Japan gave us a talk titled "Make our new normal – Diverse our innovation with diversity trend." She introduced the current situation of female researchers in the field on a global scale as well as her 15-year career coming across challenges from work and daily life. The audience both on-site and online were greatly touched.

In the group discussion and presentation parts, the participants were separated into a total of 10 teams of four or five members and discussed how future technologies would be. Each team made a five-minute presentation based on the idea they discussed. For example, one team came up with the ideas that we needed to accept that in a long period in the future, and that we needed to adapt to putting research and work online or in a hybrid way. Today, while facing the "Pandemic to Opportunity" situation, we need to be ready at any time to meet more unknown challenges.

Then, Prof. Toshio Fukuda, the current IEEE president, gave us the comments. Prof. Fukuda called on young researchers to participate bravely instead of being bound by reality and spelt IEEE as "I Enjoy Eating Eating." Finally, Prof. Natsuko Noda, IEEE JC WIE Chair, gave us a closing speech, and our workshop ended successfully in a relaxed atmosphere.

Participants on-site and online

In spite of the corona crisis, more than 20 IEEE members gathered at the on-site venue. It was challenging to hold the on-site event together with the online event. We found some points needed to be improved such as the difficulty in conveying the excitement of the on-site side to the online side. Although we are in such a difficult situation to connect with each member, we will revitalize IEEE's activities by taking advantage of both online and in-person activities.

(Reported by Tokyo Young Professionals Chair, Takashi Yoshida)

The 10th IEEE Tokyo YP STEP Online Event KDDI Research Tour and Discussion with Researchers

We held the IEEE Tokyo YP 10th STEP event (transition from student to young professional) on November 4, 2020. This event aimed to raise awareness of building a career as an engineer and a researcher in the field of electronics and information communication. This year’s event was held online for the first time with the cooperation of KDDI Research, Inc. Compared to previous years, students attended from all over Japan this year thanks to the virtual format. Participants included three undergraduate students (non-members), 11 master's students (seven student members), and four teachers (members).

Some lectures about an overview of KDDI Research, Inc., and space division multiplexing transmission technology took place. Young researchers then introduced themselves and their research projects. During the second half of the event, young and expert researchers and students were divided into small groups and conducted an exchange session using breakout rooms that allowed us to study the technologies that support our society's infrastructure. We also learned about the researchers’ work and lives.

Exchange session

Responses to the questionnaire sent after the event showed that overall satisfaction was very high (53.3%: very satisfied, 33.3%: satisfied, and 13.3%: normal). The exchange session was especially highly rated. Participants commented "I was surprised that I would have the opportunity to talk with the researcher under this situation" and "I was happy to listen to a wide range of topics from young employees to experts. Also, I enjoyed talking during the exchange session!"
The coronavirus pandemic has forced us to recognize the importance of technology, especially those related to communication. Thanks to communication technology, this event demonstrated that we could talk to each other without worrying about the online location. We hope that this event will help the participants build their careers, think about how they should handle their relationships, and expand their areas of activity in the future.

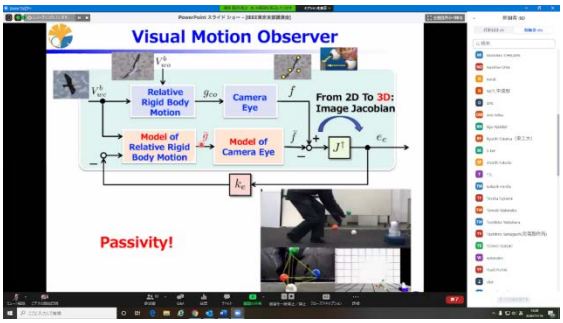

Participants on the screen

(Reported by Tokyo Young Professionals Vice-Chair, Aiko Uemura)

The 6th Lecture Meeting of Tokyo Section in 2020

The 6th Lecture Meeting of Tokyo Section in 2020 was hosted by Tokyo Technical Program Committee (TPC) from 3:00p.m. to 4:30p.m. on November 16, via the Web virtual conference system Zoom Webinar with 85 participants. This lecture meeting is co-sponsored by Tokyo Life Member Affinity Group (LMAG) and the Institute of Electronics, Information, and Communication Engineers (IEICE). Prof. Masayuki Fujita, Department of Information Physics & Computing, The University of Tokyo, gave the invited talk entitled "Networked Autonomy." He talked about the passivity-based autonomous system in robotics from the basics to the advanced researches.

We used Zoom Webinar as a virtual conference system. In the current situation, this online style obtains the understanding of attendees and helps to receive many attendees. We pursue to grope for the future Lecture meetings as considering the COVID-19 situations.



Screens in the lecture meeting

(Reported by Tokyo Technical Program Committee Chair, Tetsuya Kawanishi)

The 7th Lecture Meeting of Tokyo Section in 2020

The 7th Lecture Meeting of the Tokyo Section in 2020 was hosted by Tokyo Technical Program Committee (TPC) from 3:00p.m. to 4:30p.m. on December 7, via the Web virtual conference system Zoom Webinar with 95 participants. This lecture meeting is co-sponsored by Tokyo Life Member Affinity Group (LMAG) and the Institute of Electronics, Information, and Communication Engineers (IEICE). Dr. Kohtaro Asai, Technical Adviser, Mitsubishi Electric Corporation, Corporate R&D, Plannning & Administration Department, gave the invited talk entitled "Video Coding: Development, Standardization and Expansion." He talked about the history, technology and standardization including future view about video coding broadly.

We used Zoom Webinar as a virtual conference system. We will hold TPC Lecture meetings series in 2021 as considering the COVID-19 situations.

(Reported by Tokyo Technical Program Committee Chair, Tetsuya Kawanishi)

Tokyo Young Professionals held

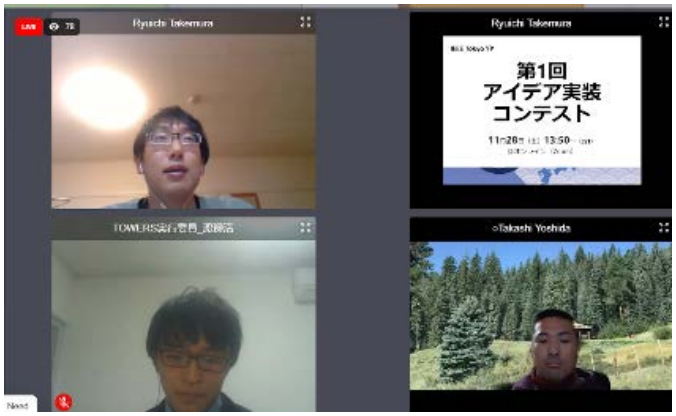
"Idea implementation contest: You can change the world!"

Tokyo Young Professionals (YP) held an idea implementation contest to provide a chance for everyone who has enthusiasm to share one's ideas solving social problems in COVID 19 situation. We opened an application page from May 28 to July 8, 2020. Although this was the first year for us to hold the contest, we got eight sophisticated ideas shaped into the high-quality prototypes. Also, surprisingly, many of them uploaded videos on YouTube to introduce their functions or released their proto apps, on Google Play store or iTunes store. The ideas were reviewed based on the online presentation in IEEE TOWERS on November 28. Three ideas won prizes and were awarded in the closing ceremony of the conference.

【Winner】 Nearlog: Contact tracing technology securing anonymity
team : Nearlog（Mr. Ken Shibata）

【Runner-up】Online platform to connect people for properly distributing virus protectors
team : No-lack（Ms. Atoka Jo）

【Fine work】Hello Professor Recommendation: Keywordless search using webpage information as query
team : Hello Professor（Mr. Takashi Murayama, Mr. Shota Kono, Mr. Yusuke Kondo, Mr. Yuichi Nakabayashi, and Mr. Kazuho Nonomura）



Award ceremony on Remo

(Reported by Tokyo Young Professionals Chair, Takashi Yoshida)

Notice from IEEE Tokyo Section Office

Tokyo Bulletin is published via E-mail.

- Have you renewed your 2021 IEEE membership? You can easily renew your membership online with your Web Account.
- Tokyo Section encourages membership upgrade to Senior Membership. Visit IEEE website for online application. For details, please refer to Senior Member Application procedure.
- Please make sure to notify IEEE HQ of any changes in your address, etc. Online notification is available by registering your Web Account.

IEEE Tokyo Section welcomes any comments, requests or inquiries from our members. Please send them to tokyosec@ieee-jp.org.