

= A Serial Introduction Part 1 = Winners of ITU-AJ Encouragement Awards 2021

In May every year, The ITU Association of Japan (ITU-AJ) proudly presents ITU-AJ Encouragement Awards to people who have made outstanding contributions in the field of international standardization and have helped in the ongoing development of ICT.

These Awards are also an embodiment of our sincere desire to encourage further contributions from these individuals in the future.

If you happen to run into these winners at another meeting in the future, please say hello to them.

But first, as part of the introductory series of Award Winners, allow us to introduce some of those remarkable winners.

Masashi Kamei

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Fields of activity: ABU, ITU-R SG4, WRC, Satellite Broadcasting



International Collaboration with ABU for Standardization Activity

It is an honor to receive this ITU-AJ Encouragement Award. I would like to express my sincere gratitude to the ITU Association of Japan and all those who have given me guidance and encouragement.

I have been involved in standardization activities since WRC-07. I participated in discussion of the agenda item on use of the 21-GHz band broadcasting satellite service at APG07-5 and made contributions based on results from our study for WRC-12 agenda item 1.13, on the 21-GHz band broadcasting-satellite service. Our proposals, which enable flexible use compensating for rain attenuation and providing future broadcasting applications, were reflected in updates to Radio Regulations. We continue study on the 21-GHz band broadcasting-satellite service and contribution to ITU-R.

During the discussion in APG and WRC, the Asia-Pacific Broadcasting Union (ABU), which is a professional association of broadcasting organizations including NHK in the Asia-Pacific region, gave a lot of cooperation and support for our proposals and promoted

better understanding in other members. I learned that this international collaboration was established by a tradition of both contribution by senior members of NHK to ABU and trust by ABU in those members.

I was elected as a vice chairman of ABU Technical committee in October 2018. One of the agenda items of WRC-19 was related to promotion of UHD TV satellite broadcasting, which is already being provided in Japan since December, 2018. Based on our traditional relationship, I was able to secure understanding and cooperation from ABU to support Japanese activities on this agenda. Since APG19-5 was held in Tokyo in August 2019, exhibiting UHD TV satellite broadcasting was examined to promote understanding in foreign members who would not otherwise have a chance to experience its immersive visual and sound. I also gave a presentation for the ABU supporting Japanese activity.

I will continue to make efforts for international collaboration with ABU and promote R&D results based on our traditional relationship.

Daisuke Kurita

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Fields of activity: 3GPP LTE-Advanced and 5G standardization



3GPP Activities on UMTS/LTE/LTE-advanced Antenna Performance Standards and 5G Physical Layer Standardization

I would like to offer sincere thanks upon receiving this ITU Association of Japan Encouragement Award, and take this opportunity to thank the many people who offered their support and guidance.

I have participated in 3GPP RAN WG4 since 2007, studying mobile station antenna performance requirements and evaluation technologies, and in 3GPP RAN WG1 since 2018, studying and creating specifications for advanced 5G NR technologies such as NR backhaul-link application and NR communication area extension.

Mobile station antenna performance is the element that determines communication areas, and we faced two main difficulties when beginning discussion to create the standard specifications. The first was that network operators want high performance, while mobile device vendors want the minimum performance. I proposed performance requirements considering both perspectives and considering discussion from each company. The

second was that in studying evaluation technologies for multi-antenna performance, support was divided between two different evaluation technologies. I proposed technology that permitted the technologies to coexist, and were able to guide discussion with each company to conclude the technical study.

In this way, I learned that although technical superiority is important in discussion of standards, it is also important to make flexible proposals that consider differing perspectives. I also devoted such thinking when involved in study of 5G NR advanced technologies and contributed to completing the technology verification according to schedule.

I look forward to further advances in communication technology, which will bring more richness and convenience to life in the future, and hope to contribute to that development.

Taiji Sakamoto

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 Fields of activity: ITU-T SG15



Next-generation Optical Fiber Standardization Activity

I am very thankful to receive this Encouragement Award from the ITU Association of Japan. I would like to express my gratitude to everyone at ITU-AJ and ITU-T SG15 for their guidance and cooperation for standardization activities in ITU-T SG15.

I have been involved in ITU-T SG15 (Transport, Access and Home) Optical Fiber standardization Question 5 (Optical fiber characteristics and test methods) and Question 8 (Optical fiber submarine cable system characteristics) since 2012, promoting standardization of optical fiber for high-speed, high-capacity transmission.

To support communication traffic as they continue to increase in

the future, standardization of optical fiber capable of even higher speeds and capacity is needed, and we have already begun discussion of the next generation of optical fibers, called multi-core fiber, which are structurally very different from conventional optical fiber.

Communication standardization activity is essential to maintaining interconnectivity, and optical fiber is the hardware at the core of communication. I hope to continue contributing to establishing standards for next-generation optical fiber and developing the basic optical communications technologies supporting all of our lives and businesses.

Takuya Shitomi

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 Fields of activity: ITU-R WP6A, Digital Terrestrial Television Broadcasting



Activities related to digital terrestrial television broadcasting

It is a great honor to receive the Encouragement Award from the ITU Association of Japan. I would like to express my sincere gratitude to the ITU-AJ and everyone that has given me guidance and encouragement.

I have been acting as a member of the Japan delegation since 2017, contributing to WP6A mainly on two issues.

The first relates to transmission technologies for 4K/8K terrestrial broadcasting. I contributed documents on the transmission technologies developed in the research titled, "R&D related to advanced terrestrial television broadcasting technology," supported by the Ministry of Internal Affairs and Communications, and the information was added to several related reports. For the recommendation for 2nd generation digital terrestrial television broadcasting systems (BT.1877), I also proposed a revision of the system selection guidelines to summarize the technical differences and features between several transmission systems. In this work,

the opinions of each country were in conflict, but we were finally able to lead to a revision of the recommendation allowing everyone to agree.

The second issue concerns methodologies for evaluating interference on digital terrestrial television broadcasting using Monte Carlo simulations. I participated in the rapporteur group meeting, discussing the correspondence between the interference probability obtained by the Monte Carlo simulations and the degradation of location probability used in the terrestrial broadcast link budget. We developed a new recommendation (BT.2136) and hope that the recommendation will be beneficial for both broadcasting and other systems.

Through these activities, I was able to experience international negotiations and broaden my perspective. I will continue to make efforts to contribute to the effective use of radio waves and the promotion of Japan's efforts on next-generation broadcasting technologies.

Kunihiko Teshima

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 Fields of activity: Open RAN



Standardization activities at 3GPP and O-RAN

I am extremely honored to receive this ITU Association of Japan Encouragement Award. I would like to express my gratitude to everyone at ITU-AJ and all others involved.

I have been involved in RAN standardization activities at 3GPP since about 2013. One of the issues I was involved in was discussion on improving communication quality in high-speed mobile environments such as Shinkansen trains. At the time, the issue was raised as just a potential issue, because high-speed environments like Shinkansen are limited, even considering the whole world, so it was difficult to convince others that an extended specification to resolve the issue was necessary. However, through patient discussion to identify the issue using field test results and explaining it in detail, we finally reached understanding with many operators and vendors. I later became rapporteur for this discussion,

and the fact that we finally completed the extended specification is a good memory for me, even today.

Currently, I have moved my activities to the O-RAN Alliance, working to implement an open and intelligent RAN, and am working as a co-chair of one of the groups studying open interfaces to realize a multi-vendor RAN. Enabling configuration of a RAN combining equipment from different vendors would allow combinations that utilize features from more vendors and products, to gain benefits in terms of performance, timing in providing services and cost. For RAN in the 5G era, with demand for more advanced requirements and diverse services, implementing and open, multi-vendor RAN is more important than ever. As a co-chair, I intend to continue driving discussion of creating an open RAN.