

= A Serial Introduction Part 3 = Winners of ITU-AJ Encouragement Awards 2024

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.

Daiki Takeda

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Fields of activity: 4G/5G commercial development and standardization



Contributions to Evolution of Mobile Communication: From LTE to 5G

It is a great honor to have been awarded the ITU-AJ Encouragement Award 2024. I would first like to express my deep gratitude for all the support given by the ITU Association of Japan and all parties involved.

When I joined NTT DOCOMO in 2012, many mobile operators were already launching commercial LTE (Long Term Evolution) services. Simultaneously, intensive research and development efforts to advance LTE into its next phase, LTE-Advanced, were underway. However, the practical performance of key technologies for LTE-Advanced, such as MIMO (Multi-Input Multi-Output) and carrier aggregation, in real-world environments was still being investigated. I vividly remember conducting countless field measurements using radio-wave testing vehicles in diverse environments ranging from suburban to urban areas. During that time, my primary focus was to establish a solid technical foundation that would ensure faster, lower-latency, more-reliable, and more-seamless LTE-Advanced services for our customers.

In 2015, I began participating in 3GPP standardization activities and contributed to the commercial development of 5G, the fifth-generation mobile communication system aligned with the IMT-2020 radio interface. Compared to LTE/LTE-

Advanced, 5G offers significantly increased communication speeds; however, it also presents challenges in leveraging higher frequencies and broader bandwidths. I focused on proposing methods for quick cell search and beam selection as well as innovative methods for reducing power consumption of user terminals. Additionally, I submitted numerous patent applications for the novel technologies that we developed through our experiments and standardization efforts. In 2023, I was deeply honored to receive the Prime Minister Prize at the National Commendation for Invention, which I believe recognizes our contribution to strengthening Japan's global competitiveness.

Currently, discussions on 6G, the next-generation mobile communication system, are underway. These discussions include exploring new values, such as sustainability, while deepening and diversifying the benefits mobile communications bring to society. Drawing on my experiences and with the support of all stakeholders, I will continue striving to enhance telecommunications infrastructure as a critical foundation of society.

Finally, I would once again like to express my sincere gratitude for this prestigious award and respectfully ask for your continued guidance and support in the future.

Wenjing Chen

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Fields of activity: ETSI ISG ZSM



Contributing to ETSI ZSM Standardization Autonomous Network

I am very honored to receive the Encouragement Award from the ITU Association of Japan. I would also like to express my gratitude to everyone at the ITU Association of Japan, ETSI ZSM, and NTT Docomo.

Since 2019, I have been participating in standardization activities for automation of network operation at ETSI ZSM.

ZSM (Zero-touch network and Service Management) is a specification study group of ETSI (European Telecommunications Standards Institute). Since its establishment in 2017, under the aim of implementing autonomous networks, many high-level work items, such as reference architectures, use cases, requirements, and life cycles between cross-domains, have been published.

Recently, I have been focusing on intent-driven closed loops and digital twins.

To implement the autonomous network established by ITU-T SG13, “intent-driven closed-loop networks/systems/management and control/etc.” has/have been garnering attention. Using such a

network/system/etc., users express their goals in natural languages, which is called “intent.” The system translates the intent into an “attribute” in system language and uses the closed-loop to fulfill the intent all the time. I put effort into specifying the solution of intent conflicts with closed-loop and keeping discussion with other operators and vendors to approve the specifications.

Digital twins are specified in ITU-T SG11, and ZSM has a liaison paper with ITU-T. They are virtual representations of physical networks and used for simulation, integration, testing, monitoring, and maintenance. This technology deserves more attention because it will help to improve the service quality.

In addition to participating in the above-mentioned activities, I would like to participate in various activities related to autonomous-network standardization and implementation at the ITU, 3GPP, O-RAN, and TM Forum. Finally, I will strive to [future goals] and ask for your continued guidance and support in the future.

Katsumi Fujii

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Fields of activity: Electromagnetic compatibility, Calibration of RF measuring instruments



Contribution to the international standardization of EMI measurements below 30 MHz

I am truly grateful to receive this honorable award, the ITU Association of Japan's Encouragement Award. I would like to express my sincere gratitude to everyone at CISPR SC-A and all those involved in bestowing this award.

The frequency band below 30 MHz has been used for communications and broadcasting since the use of radio waves began; however, in recent years, it has come to be used for a variety of other applications, including IH-cooking equipment, wireless power transfer, and contactless IC cards (RFID). Meanwhile it has become known that inverter circuits installed in energy-saving devices generate electromagnetic noise in the frequency band below 30 MHz, and that noise can cause interference with other devices. Against this background, it has become necessary to maintain a suitable electromagnetic environment—even in the frequency band below 30 MHz—and create rules to meet this

necessity. Considering those circumstances, CISPR decided to develop an international standard for measuring electromagnetic noise in the range from 9 kHz to 30 MHz.

I decided to work on formulating standards for “a method for evaluating the characteristics of test sites” and “a method for calibrating antennas,” and I presented the results of my research and development at the CISPR meetings. After discussions with experts from around the world, these two proposed methods were adopted as CISPR standards. Currently, these standards are widely used as international standards necessary for commercialization in fields ranging from electronic and electrical equipment to automobiles.

I will continue to contribute to international standardization activities of CISPR that aim to maintain a radio environment in which all wireless systems can operate in harmony.