

## = A Serial Introduction Part 2 = Winners of ITU-AJ Encouragement Awards 2018

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.

### Toru Uchino

NTT DOCOMO, INC.

tooru.uchino.fv@nttdocomo.com <https://www.nttdocomo.co.jp/english/>

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



### 3GPP standardization activity on LTE-Advanced and the 5G higher layer protocol

I am extremely honored to receive the ITU-AJ Encouragement Award, and would like to thank the ITU Association of Japan and all those who supported my nomination and selection.

When I first joined NTT DOCOMO in 2009, I worked on development of the LTE commercial base station which was launched in 2010. I then began attending 3GPP RAN2 meetings in 2011 and contributed to Carrier Aggregation (CA) specifications to boost data rates by aggregating multiple carriers, Dual Connectivity (DC) to enhance data rates by enabling terminals to communicate with multiple base station, and IoT terminals. For two years from December 2013 to December 2015, I was privileged to serve as Work Item rapporteur for CA and DC WIs, with responsibility for coordinating work item schedules and discussions.

Many stakeholders come together from diverse backgrounds—private companies, common carriers, vendors, and research institutions—to create standard specifications in 3GPP meetings. So in order to reach a consensus when drafting an agreement, it's essential that we consider not only the technical aspects but the background of the companies or institutions making the proposals.

Needless to say, it is quite a challenge to organize and compile all of the information needed to conduct constructive discussions when literally hundreds of contributions are submitted from such a diverse membership for every CA and DC work item under discussion. As WI rapporteur, my job is to facilitate the discussions so things go smoothly in order to complete the specification work on schedule.

More specifically, my job involved sorting out from among the companies' many proposals those ideas and contributions that were critically important for the system, and negotiating to keep the good ideas while excluding the nonessential content. Eventually, with much support from my colleagues, we successfully completed the specification on schedule.

3GPP has now completed the official standalone 5G specification, which opens the way to discussions of 5G enhancements. As more emerging companies and stakeholders join the discussion, this will present even greater challenges. But based on my years of experience working for the 3GPP, I am fully committed to further development of 5G system specifications which will usher in even better user experience and more efficient new radio systems.

### Nobuo Okabe

SHARP Corporation (Retired)

JH1LRO@ybb.ne.jp

Fields of activity: Expert of JICA (Japan International Cooperation Agency)



### Installation of Digital Terrestrial Television Broadcasting (DTTB) and Emergency Warning Broadcasting System (EWBS) in Peru

I am extremely honored to receive the ITU-AJ Encouragement Award, and thank everyone involved in my nomination and selection.

I served two years as a JICA expert charged with helping disseminate digital terrestrial TV broadcasting (DTTB) and the emergency warning broadcasting system (EWBS) in Peru. Having decided to adopt Japan's ISDB-T international standard, Peru has already rolled out digital broadcasting in six major cities.

Peru's Institute of Radio and Television (IRTP) has 192 television broadcasting stations spread across the country, and government's Ministry of Transport and Communications (MTC) is promoting nationwide digitalization in line with the ministry's master plan. But

in promoting the rollout of digital TV to rural areas and the rest of the country, there hasn't been enough effort to educate the citizenry about the upcoming analog "blackout" beginning in 2020 or the fact that current analog TV sets will no longer be supported. Capitalizing on my experience rolling out digital TV in Japan, my mission was to collaborate with MTC staff in charting a deployment roadmap that is tailored to Peru's unique circumstances.

In 2016, six digital stations and eight tide level gages were set up as a trial EWBS system for Peru, and continuous broadcasting trials have been conducted to verify that the system works exactly as it is supposed to. The EWBS system has attracted enormous interest

among other South and Central American countries that are also subject to life-threatening natural disasters.

Although my mission in Peru has come to an end, I still follow up with inquiries that come in from time to time from Japan's Ministry of Internal Affairs and Communications (MIC) and other relevant

agencies.

We are making an effort to get the EWBS system widely deployed in as many Central and South American countries as possible, because it really has the ability to save a lot of lives when natural disasters strike.

## Masaaki Obara

KDDI Corporation  
ms-obara@kddi.com <http://www.kddi.com/english/>  
Fields of activity: 3GPP RAN



### Efficient utilization of spectrum via 3GPP standardization activities

I am honored to receive the prestigious ITU-AJ Encouragement Award, and would like to thank everyone who supported my nomination and selection.

It is well-known that mobile data traffic has grown prodigiously averaging 30 to 40% a year in Japan. Efficient utilization of spectrum is a critical factor in accommodating this rapid growth. There are several candidates for improving efficiency in a 3GPP context, and my work has focused on standardizing *Carrier Aggregation*, or CA.

CA is achieved by aggregating spectra, or component carriers (CC). So for example, 800MHz + 2GHz is referred to as 2CC CA, 800MHz + 1.7GHz + 2.1GHz is designated 3CC CA, and so on. One can see that the peak data rate is significantly improved by CA. Essentially, the required time to transmit and receive data is slashed compared with using a single spectrum. In other words, by shortening the time for data communication, this frees up radio resources that can be used by other users, so CA greatly improves the efficiency of spectrum utilization.

Having analyzed and demonstrated these advantages of CA, KDDI proceeded to develop a detailed road map for CA

commercialization based on 3GPP standardization. I am convinced that CA is critically important for improving the user experience. I was in charge of standardization during this time frame, so I put together a viable work plan for achieving the CA commercialization roadmap. I proposed new work items to be addressed by 3GPP TSG-RAN in my capacity as rapporteur and received approval to commence technical discussions at the end of 2011. I also coordinated technical discussions in 3GPP RAN-WG4 while managing the commercialization schedule. Although KDDI's proposals were not universally accepted, they were clearly necessary for drafting a CA specification that would enhance user experience. These efforts proved successful thanks to the many stakeholders who supported my standardization efforts. Finally, in the summer of 2014, KDDI was Japan's first operator to commercially launch CA.

Spectrum efficiency has been markedly enhanced by CA, but mobile data traffic continues to expand. KDDI is committed to optimizing the user experience, and will continue to play a prominent role in 5G standardization and technologies now emerging.

## Ataru Kobayashi

NEC Corporation  
a-kobayashi@df.jp.nec.com  
<https://www.nec.com/en/global/solutions/biometrics/index.html>  
Fields of activity: Safety / ITU-D SG2



### Safe and Smart Society

It is a great honor to receive this award. NEC has a track record in development and worldwide deployment of face recognition technologies; last year, NEC's TCI Division (now Safer City Solutions Division) has also received the ITU-AJ Encouragement Award. Beginning with the Regional Preparatory Meeting for WTDC-2017 for Asia and the Pacific, as well as during the WTDC-2017, and currently as part of the ITU-D Study Group on Smart Society Q1/2, I have continued carrying out initiatives aimed at communicating the importance of and sharing relevant case studies on "safety and security of society," in which face recognition and other biometric authentication technologies play a significant role, with officials from developing countries.

Major risks are inevitable when the creation of smart societies is hastily pursued. Societies become vulnerable in the absence of safety measures that are commensurate with the investment in digital technology. In regard to safety measures, studies on cybersecurity (Q3), disaster recovery (Q5), and e-Health (Q2) are already being

undertaken within ITU-D Study Group 2. Thus, I would like to delve into the ICT needed for (personal) safety under smart society (Q1).

No matter how convenient and efficient cities and societies become, safety will always be an important component of people's Quality of Life (QoL). ICT systems, such as surveillance cameras and face recognition systems, play an important role in ensuring public safety in cities, train stations, event venues, and other public places. Likewise, ICT is also essential in digital government, which enables digitalization of administrative procedures and equal access to safe public services for all citizens. Another area that requires ICT is smart transportation, which enables congestion- and accident-free transportation, as well as the safe use of public transportation by women and children.

Along with proposing relevant case studies in Japan and overseas, I would like to convey the importance of safety and security in smart societies to officials of developing countries.