15th June 2018
24th URSI-C Chair
Makoto Taromaru

Activity Report of URSI-C Committee

- The 12th scientific workshop of the 23rd URSI-C in Japan -

1. Session title: “Recent trend of Antenna, Propagation, System, and Signal Processing Technologies toward to future”

2. Convener: Prof. Kentaro Nishimori, Niigata University

3. Date/time: 09:00 - 11:35, 22nd March 2018

4. Venue: Tokyo Denki University (Adachi ward, Tokyo pref.)

5. Registration fee: Free

6. Listed attendees: 28 persons

7. Local arrangement: Prof. Kentaro Nishimori, Niigata University

8. Presentation:

•09:00 - 11:35	Opening Remarks, Prof. Dr. Nobuyoshi Kikuma, Chair, Commission C of URSI-JNC (Nagoya Institute of Technology)
•09:05～09:35	“The status on standardization for channel models used in the 5G,” Koshiro Kitao (NTT Docomo）
•09:35～10:05	“Development of 28 GHz band massive MIMO antennas for the 5G,” Satoshi Yamaguchi (Mitsubishi Electric Corp.)
•10:05～10:35	“3 Dimensional mesh network using drones and directional beam,” Takefumi Hiraguri (Nippon Institute of Technology)
•10:35～11:05	“Design technology and current development of antennas for automotive mm-wave RADAR,” Kunio Sakakibara (Nagoya Institute of Technology)

•11:05～11:35 “Recent topics of HF Ocean RADAR,” Satoshi Fujii (University of the Ryukyus)

•11:35 Closing

9. Reception: Attendees 15 persons at Room 5603 in Tokyo Denki University

10. The steering committee meeting took place from 11:35 to 12:00 on March 22, 2018.

11. Concluding Remarks

We had five presentations about antennas and propagation related to MIMO, a new application using Drones (unmanned small aircraft), millimeter wave, and short wave radars. Furthermore, which have recently been drawing attention was presented. Dr. Kitao from NTT DoCoMo introduced the propagation model and standardization trends up to the 5G system. He also introduced the space-time propagation model used in recent MIMO systems. Dr. Satoshi Yamaguchi from Mitsubishi Electric Corporation introduced the prototype system for Massive MIMO, which is the key technology in the 5G system, and mainly explained on the aspect of the antenna design. Prof. Hiraguri from Nippon Institute of Technology gave a lecture on a new application using Drones with MIMO transmission, the transmission method, and the performance. Prof. Sakakibara from Nagoya Institute of Technology gave a lecture regarding the basic principle and development examples in vehicle millimeter wave radar. Finally, Prof. Fujii from University of the Ryukyus gives the development situation of marine radar using shortwave and the present situation of domestic and foreign projects.

This workshop was successfully closed giving participants a chance to discuss technologies related to themselves.

Note: The 11th scientific workshop, which was planned to be held on 27th Oct. 2017 in Okinawa, was cancelled due to typhoon approaching. This 12th workshop was additionally planned to alternate the 11th workshop.