



2014.11.xx
23rd URSI-C Chair
Nobuyoshi. Kikuma

Activity Report of URSI-C Committee (Draft)

- The 12th scientific workshop of the 22nd URSI-C in Japan -

1. Session title: "Useful radio communication systems using unmanned aircrafts and satellites in a time of disaster"
2. Convener: Dr. Hiroyuki Tsuji, National Institute of Information and Communications Technology
3. Date/time: Aug. 1, 2014/ 12:00 - 16:55
4. Venue: Aobayama East Campus, Tohoku University Aobayama Hall 5F Conference Room
5. Registration fee: Free
6. Listed attendees: 33 persons
7. Local arrangement: Dr. Ryo Yamaguchi (SoftBank Mobile Corp.)
8. Presentation: 30 min. for presentation, 10 min. for Questions and Comments
 - 12:00 - 13:00 Demonstration of network relay using UAVs
 - 14:00 - 14:10 Opening Talk, Prof. Masahiro Morikura, Chair, Commission C of URSI-JNC
 - 14:10 - 14:50 "5-GHz band Aircraft-to-Ground Radio Channel Measurement for Unmanned Aircraft Systems", Kenichi Takizawa (NICT)



- 14:50 - 15:30 "Delay tolerant message delivery system using unmanned aircraft system", Dr. Kazunori Takeuchi (KDDI R&D Laboratories Inc.)
- 15:30 - 15:50 Coffee Break (Exhibition of Dr. Nishiyama's research results)
- 15:50 - 16:20 "Wireless bridge system and relay-by-smartphone system using small UAS", Dr. Hiroki Nishiyama (Tohoku Univ.)
- 16:20 - 16:55 "Reliability Improvement of UAS Space-Time coding Wireless Relay using multi-link architecture", Prof. Fumiyuki Adachi (Tohoku Univ.)

9. Reception and Lamp Session at Iwanumaya, Sendai, Japan

10. The steering committee meeting took place from 8:30 to 9:30 on Aug. 2

11. Concluding Remarks

The 12th scientific workshop held in Tohoku University was the last one in the series of the 22nd URSI-C in Japan. Actually 22nd term first round was held in Tohoku University, and finally became the Tohoku again. In addition, the theme of the first round was disaster immediately after the Great East Japan Earthquake, and the theme of the workshop also became disaster associated with assistance for reconstruction. Every one of the participants had been feeling the change of Sendai during this period.

Prior to the lecture, we joined a tour of the state of the propagation measurement experiment and radio relay demonstration using unmanned aircraft by the National Institute of Information and Communications Technology this time.

In the lecture, we had the following presentations:

- Aircraft-to-Ground Radio Channel Measurement for Unmanned Aircraft Systems (UAS) by Dr. Takizawa
- Delay tolerant message delivery system using UAS by Dr. Takeuchi
- Wireless bridge system and relay-by-smartphone system using small UAS by Dr. Nishiyama
- Reliability Improvement of UAS Space-Time coding Wireless Relay by Prof. Adachi



The night session, in which was noted was also held. And we have received a lecture by Mr. Nishi about the current state of applications using unmanned aircraft in recent years of the United States, the developed countries of unmanned aircraft.

Thus, with increasing attention of the use of unmanned aircraft in the future, a lively discussion for a variety of wireless communication technologies related to unmanned aircraft and the tour of the radio relay experiments using unmanned aircraft were carried out. I think meaningful information has been obtained to all participants.

