

Report on Participation in 24th AIAA ICSSC

National Institute of Information and Communications Institute
Graduate School of Engineering, University of Tokyo
Masato Takahashi

The 24th AIAA International Communications Satellite Systems Conference (ICSSC 2006) was held from 11th to 14th June 2006 at San Diego Hilton Resort, California. The author fortunately had a precious opportunity to participate in the conference to make a technical presentation. Receiving the request from the editorial board of Space Japan Review, I would be happy if I show you the outline and the atmosphere of the excellent conference.

Speaking of San Diego, it is a famous place for Japanese, where the final game of the first world baseball classic was held and the Japanese Team, including Director Oh and Ichiro, won the championship a few months ago.

Under the theme of the conference is “Bridging to the Future”. many important topics were discussed, including Satellite Communication Systems, satellite Broadcasting Systems, Satellite Positioning Systems, Collaboration Systems of Terrestrial Network, Disaster Relief Activities, Medical and Educational Applications and so on.

On the previous day of the main conference, the Colloquium was held and significant lectures on the hot technical issues were given by splendid lectures. The titles and the lecturers were as follows: “General Introduction”, Dr. Neil Helm at George Washington University, “Status of the Satellite Communications Industry in 2005”, Mr. David Cavossa, “Fundamentals of Satellite Communications” Dr. Edward Ashford at Delft Technical University, “Defense Satellite Communication System”, Ms. Mary Ann Elliot, “XTAR X-band Satellite



A Colloquium Lecture, Deputy Director Dr. Neil Helm at GWU



Snapshot of Colloquium Panel Session

Communications, “Mobile Systems and Satellites”, Mr. Gary Chesney, “Japan’s Satellite Mobile Broadcasting System”, Mr. Masashi Suenaga, “Space and Terrestrial Wireless Synergy”, Dr. Neil Helm. Dr. Helm, the Deputy Director, Institute for Applied Space Research, George Washington University, was the chairman of the colloquium. At the panel session, the active discussion was observed between the audience and panelist and it was really fruitful colloquium.

At the morning of the next day, Government Plenary Session Started. Director of National Security Space Office, Maj. Gen. Armor Jr. and other speakers gave us the meaningful lectures. National Security Space Architect (NSSA) and National Security Space Integration (NSSI) Office was integrated into National Security Space Office in 2004. USAF Dr. McCaslan, who received his Ph.D. from MIT at the field of the astronautics, gave us a significant lecture. Network Centric System Concept, Interoperability and Sustainability seem to be more important. X-Band is becoming a key in the field of Satellite Communications. I had opportunities to talk with the eminent lectures and impressed. Industry Plenary Session gave us the active discussion by International Mobile Satellite Organization CEO and other important persons on the topics including the frequency allocations and others.

At Awards Luncheon, AIAA Aerospace Communications Award was executed. This award system was established in 1967 for the person who achieved eminent contribution the space communications. This time, X-Band Satellite Communication Organization XTAR COO, Dr. Denis Curtin won the award for his leadership from the research on the new solar cell to satellite systems design, testing and operation. I had a precious opportunity to talk with him about his major on mechanical engineering at his university and impressed by his wide range of knowledge.

During technical sessions, the author also made a technical presentation at one of them and participate in the exchanging views in some. The session topics had wide range of varieties include communications protocol,



AIAA Aerospace Communications Award:
Winner Dr. Curtin, TC Chair Dr. Houston



A Technical Session, Professor
Wakahara of the University of Tokyo

propagation, deep space communications, data relay service, disaster relief, navigation system, satellite architecture, satellite subsystem, terrestrial system design and so on., and each was really meaningful. In recent years, the researches taking advantage of the satellite positioning technology applications into the satellite communications seem to be gradually spreading. For example, NASA Goddard Space Flight Center is discussing a research plan on real-time provision of navigational correction data in order to give the positioning information at the precision of 20cm 3D RMS and nano second. Augmentation Service for Satellite (TASS) with DRSS (Tracking and Data Relay Satellite System) broadcasts messages with S-band multiple access forward channel. On the other hand, as a measure of 6th Framework Program of the Europe Commission, A mobile satellite broadband transmission experiment was also interesting. As to Japanese Activity, I was happy to see that the research topic of ground terminal mobility management was emerging in the new filed where I also think much of and I made a presentation on this issue also.

The ICSSC-24 was held with 4th Annual International Satellite & Communications Conference and Expo (ISCe). At the occasion of the Leadership Luncheon and the likes, I had really precious opportunities to talk with Dr. Helm at George Washington University sometimes, sometimes together also with Chief Researcher Mr. Yoshiaki Suzuki at NICT. Dr. Helm is famous for his winning AIAA Aerospace Communications Award. I heard that the tiny badge of a pretty flower design on his jacket was the token. He has a lot of experience relating to policy, for example the chairperson of IEEE aerospace policy committee from 1997 to 1998. On the other hand, I also had had fortunate relationship to science and technology policy of Japan or United Nations; for example, when I was invited in the 3rd United Nations Conference on Peaceful Use of Outer Space (1999, Vienna) Space Generation Forum through the selection of United Nations OOSA, the recommendation from our international team, “Disaster Mitigation with Satellite Technologies” was officially reconciled into the United Nations Vienna Declaration. Besides, I was with CSTP of



AIAA ICSSC-24 theme “Bridging to the future” is shown on the screen;
Dr. Helm, Dr. Butash, Dr. Habib



Conference Building at
International Ballroom

Cabinet Office for two years after that. Based on the overlap of our interest, it was fortunate for me to be advised to participate in the course of Science and Technology Policy at GWU and I would be happy if it realize. I would like to thank the all people who support the AIAA ICSSC-24.

AIAA ICSSC-25 will be held at Seoul, Korea, from 10th April to 13th April 2007. I hope the next ICSSC-25 will be active as well as this ICSSC-24 and am look forward to seeing the people who discussed with at San Diego sharing the meaningful theme of “Bridging to the Future”