

Commission C – Radio-Communication Systems and Signal Processing

By Takashi Ohira

[I] Business Meetings

1. Welcome to URSI General Assembly in New Delhi

The Commission held open business meetings on 24th, 26th, and 28th, October, 2005. The following persons were present at least at one meeting, but mostly at several: Masami Akaike (Chair); Takashi Ohira, Makoto Taromaru, Japan; Said E-El-Khamy, Egypt; Claude Vloeberghs, Belgium; Naurice Bellangen, France; Alain Sibille, France; Jacques Palicot, France; Marian S. Piekarski, Poland; Paul Wittke, Canada; Sana Salous, UK; Blagovest Shishkov, Bulgaria; Jose Leitao, Portugal; Paul Walter Baier, Germany; V. E. Lyulchenko, Russia; Hendrik Schoneich, Germany; Viacheslav Potapov, Russia

At the opening of the first business meeting, the Chair welcomed everyone to the meeting and attendees introduced themselves. The Chair then reported briefly the activity of Commission C in this triennium and set the scene.

2. Election of the next Vice-Chair

Two candidates, S.E. El-Khamy(Egypt) and T. Ohira (Japan), for the next Vice-Chair were nominated. T. Ohira was elected as a result of 30 points to S.E. El-Khamy of 24 points.

3. Commission Editor for the new Radio Science Bulletin

T. Ohira agreed to serve as Commission Editor for RSB (incorporating RRS).

4. Review of the Terms of Reference

The Terms of Reference was discussed on the business meeting on 28th October. Since the Terms of Reference were changed to the existing ones three years ago, we agreed to continue as they are.

Radio-Communication Systems and Signal Processing

The Commission promotes Research and Development in:

- a Radio-Communication and Telecommunication Systems;
- b Spectrum and Medium Utilization;

- c Information Theory, Coding, Modulation and Detection;
- d Signal and Image Processing in the area of radio science.

The design of effective radio-communication systems must include scientific, engineering and economic considerations. This Commission emphasizes research into the scientific aspects, and provides enabling technologies to other areas of radio science.

5. Role of National Representatives of " C"

Further enhancement of the national and international activity of Commission C should strongly be prompted for the next triennium. While National Representatives are desired to have close contact with Commission C, Commission C also is encouraged to try to cooperate with radio scientists in each country in parallel to National Representatives

6. The program for the next General Assembly

The program of the next General Assembly will focus the sessions on mobile radio communications, including wireless access and ultra-wide-band access, and image processing. Since the field of Commission C is very broad, cooperative organization of sessions with other Commissions is necessary.

For organizing the next General Assembly held in Chicago, a wide contact with american scientists in the field of Commission C will be solicited. A list of leading scientists in USA based upon the international conferences held in USA so far will be helpful.

7. Other business

Further discussions will be made on the following points:

- (1) Necessity for the steering committee to assist chair,
- (2) Representative of Commission C for SCT,
- (3) Future Terms of Reference, as it is or the commission split and renamed,
- (4) Competition, cooperation, and/or interaction with other international conferences and organizations.

[II] Review of General Assembly

Commission C organized two tutorials, nine C sessions, and two joint sessions. Among two joint sessions, two sessions were led by Commission C. Since the technical field that Commission C deals with is wide and has relating parts with other Commissions, such joint sessions show characteristic feature of Commission C. Close contact/collaboration henceforth with other Commissions will be further encouraged. The discussions among the presenters

and audience were quite active, which reflects a wide interest to technical subjects of Commission C.

The following are the sessions organized by Commission C:

Tutorial:

"Ultrawideband (UWB) Communications and Ranging," presented by Huan-Bang Li (Proxy of R. Kohno),

"Signal Processing for Analog Smart Antennas," Takashi Ohira,

C1: "Affordable Wireless Communications for Rural Areas," organized by Ashok Jhunjhunwala,

C2: "Analog Smart Antennas," organized by Takashi Ohira,

C3: "Beyond 3G and 4G Wireless Communications," organized by Hitoshi Yoshino,

C4: "Ultrawideband Systems," organized by Alain Sibille,

C5: "Advances in Signal Processing towards Fully Reconfigurable Radio Systems," organized by Jacques Palicot,

C6: "Trend in Millimeter-Wave Wireless Access Systems and Their Technologies," organized by Hiroyo Ogawa,

C7: "Radio Science for the Ubiquitous Network Society," organized by Shozo Komaki

C8: "Multiantenna Systems," organized by Surenda Prasad,

C9: "Radio Resource Management and Spectrum Efficiency," organized by Cengiz Evcı and Bernard Fino,

CB: "Antennas for Wireless Systems and Mobile," organized by Gerhard Kristensson, and Buon Kiong Lau,

CBA: "Measurement of Wireless Channels," organized by Reiner Thomae (C and A), and Girish Kumar (B),

CP1: "Propagation for Terrestrial Mobile Systems," organized by Pretti Vainikainen

CP2: "Advanced Technologies for RF/Optical Circuits and Systems," organized by Woo-Young Choi

CP3: "Coding, Modulation, Equalization, and Detection," organized by Convener: Makoto Taromaru

CP4: "Recent Advances in Radio Communication Technology and Signal Processing Technology," organized by Convener: Yukihiro Kamiya

CP5: "GENERAL POSTER SESSION COMMISSION," organized by Masami Akaike