



Commission K 2011 – 2014 Triennial Report

Masao Taki, Chair
Joe Wiart, Vice Chair

1.0 **Overview:**

In the last three years, Commission K and its members have been active in:

- a) Publishing articles in the Radio Science Bulletin,
- b) Sponsoring scientific meetings,
- c) Organizing Joint Workshop of URSI Commission K and ICNIRP as the URSI Commission K Mid-term Meeting (Paris, August 2013).
- d) Organizing two business meetings in June 2013 during BioEM2013 in Thessaloniki (Greece) and August 2013 on the occasion of the Mid-term International Workshop in Paris (France),
- f) Contribution and funding to AP-RASC'13 in Taipei (SRS CHINA),
- g) Preparing for the General Assembly and Scientific Symposium in Beijing, China (CIE), with 10 oral sessions, a poster session of Commission K, and 7 joint sessions lead by Commission K with Commissions A, B and E.

2.0 **Contributions to the Radio Science Bulletin (RSB):**

2.1 **Associate Editor:**

Erdem Topsakal (USA) has been served as an associate editor for RSB.

2.2 **Publication in RSB:**

Following articles have been published as a series of "Radio-Frequency Radiation Safety and Health" owing to the great efforts of Prof. James C. Lin:

- 2.2.1 Zhangwei Wang and James C. Lin. Radio-Frequency Radiation Safety and Health: "Partial-Body SAR Calculations in Magnetic-Resonance Image (MRI) Scanning Systems" *Radio Science Bulletin*. 341: 22-27 (June 2012).
- 2.2.2 James C. Lin. Radio-Frequency Radiation Safety and Health: "Reassessing Exposure Safety Requirements for Mobile Phones" *Radio Science Bulletin*. 344: 32-34 (March 2013).

- 2.2.3 James C. Lin. Radio-Frequency Radiation Safety and Health: “Wireless Battery-Charging Technology or Energy Harvesting to Power Mobile Phones or Other Mobile Communication Devices, and Health Effects” *Radio Science Bulletin*. 344: 34-36 (March 2013).
- 2.2.4 James C. Lin. Radio-Frequency Radiation Safety and Health: “The Effect of Electromagnetic Field Exposure on Hypersensitivity Responses in Humans” *Radio Science Bulletin*. 346: 28-29 (September 2013).
- 2.2.5 James C. Lin. Radio-Frequency Radiation Safety and Health: “Reevaluating Research on Cell Cultures Exposed to Low-Frequency Electromagnetic Fields” *Radio Science Bulletin*. 348: 67- 69 (March 2014).

3.0 Sponsoring Scientific Meetings:

Commission K provided support for the following scientific meetings.

Event Name	Site and Event Date	Mode
ICEAA-APWC 2011 International Conference on Electromagnetics in Advanced Applications and IEEE APS Topical Conference on Antenna and Propagation in Wireless Communications	Torino, Italy, 12-17 September 2011	A
META'12 3 rd International Conference on Metamaterials, Photonic Crystals and Plasmonics	Paris, France 16-19 April 2012	A
EMC Europe 2012 International Symposium on Electromagnetic Compatibility	Rome, Italy 17-21 September 2012	A
ISAP2012 2012 International Symposium on Antenna and Propagation	Nagoya, Japan 29 October- 2 November 2012	A
MSMW'2013 and TeraTech'2013 The Eighth International Kharkov Symposium on Physics and Engineering of Microwaves, Millimeter and SubMillimeter Waves and Workshop on Terahertz Technologies	Kharkiv, Ukraine, 23-28 June 2013	A

AP-RASC'13 2013 Asia-Pacific Radio Science Conference	Taipei, Taiwan, 3-7 September 2013	B
ICEAA 2013 International Conference on Electromagnetics in Advanced Applications	Torino, Italy, 9-13 September 2013	A
ICMAP 2013 International Conference on Microwaves and Photonics	Dhanbad, India, 13-15 December 2013	A
ICEAA 2014 and IEEE APWC 2014 International Conference on Electromagnetics in Advanced Applications and IEEE APS Topical Conference on Antenna and Propagation in Wireless Communications	Palm Beach, Aruba 3-9 August 2014	A
EMC'14/Tokyo 2014 International Symposium on Electromagnetic Compatibility	Tokyo, Japan, 12-16 May 2014	A

4.0 **Joint Workshop of URSI Commission K and ICNIRP**

URSI Commission K mid-term meeting was held on August 29-30 in Paris, France. The meeting was jointly organized with International Commission on Non-ionizing Radiation Protection (ICNIRP). Following the introduction of URSI-K by Masao Taki, Chair of Commission K and introduction of ICNIRP by Rüdiger Matthes, Chair of ICNIRP, 16 presentations were given on the first day, and 10 presentation on the second day.

5.0 **Mid-term Business Meetings of Commission K:**

Two mid-term business meetings were held. First one was held in Thessaloniki, Greece during BioEM2013 in June 2013. The second one was held in Paris during URSI-K mid-term meeting in August 2013. Activities of Commission K were reviewed with fruitful discussion. Preparation for the GASS in Beijing in 2014 was also intensively discussed at each meeting.

6.0 **Preparations for GASS2014, August 16-23, 2014, Beijing, China:**

The preparation for the General Assembly in Beijing was successfully done with 10 oral sessions, a poster session of Commission K, and 7 joint sessions lead by Commission K with partner Commissions A, B and E. The program of sessions lead by Commission K consists of 75 oral presentation, 1 tutorial lecture, and 13 poster presentation. Tutorial

lecture will be given by Prof. Shoogo Ueno, The University of Tokyo/Kyushu University. The title of the lecture is "New Horizon in Bioelectromagnetics and Bioimaging".

7.0 Election for the Triennium 2014-2017

7.1 Election of Vice Chair

Two candidates were nominated. The final voting will take place at the business meeting on August 18 during the URSI GASS in Beijing in 2014.

7.2 Election of Early Career Representative

Four candidates were nominated. The final voting will be done at the same business meeting as the Vice-chair election.

8.0 White Paper on Wireless Communication and Health:

The task had been taken over at the previous GASS in Istanbul in 2011. Strategy to overcome the difficulty was discussed during GASS in 2011. A decision was made at the business meeting during the 2011 GASS in Istanbul that "We continue editing the White Paper but propose a "new" White Paper: "EMF and Health". A set of articles on the state of knowledge in research will be prepared even looking forward future tendency and possibilities. Then those articles will be published on Radio Science Bulletin during next two years. The White Paper will be the compilation of those articles with a collective preface".

The challenge has been unsuccessful, after all. More efforts should have been devoted. This challenge will be discussed during the 2014 GASS in Beijing. Prof. James C. Lin has continually contributed articles in RSB as a series of "Radio-Frequency Radiation Safety and Health". The articles should provide resources to the White Paper.