

Report on the activities of the URSI Commission K

Bernard Veyret (past chairman)

Commission K of URSI "Electromagnetism in Biology and Medicine" was chaired until the New Delhi General Assembly by Bernard Veyret (France) with Frank Prato (Canada) as vice chair.

This report is based on the conclusions from the two business meetings of Commission K that were held in New Delhi.

New Delhi General Assembly in New Delhi

Ten scientific sessions were organised, including three sessions shared with Commissions A, B, and E:

Session	convenors	topic
K1	D'Inzeo	mechanisms
K2	Behari/Korenstein	biological effects
K3	Lin/Chiang	mobile telephony
K4a	Ueno/Prato	medical diagnosis
K4b	Ueno/Prato	medical applications
K6	Karpowicz/Hietanen	occupational medicine
KT	Vecchia	public health
KAE	Neubauer/Faraone	dosimetry
KB	Wiat/Taki	modelling
KE	Morrissey/Calcagnini	EMC

- During the sessions, 80 talks were given and 47 posters, which are good numbers in view of the difficulty in organising the sessions and in travelling to New Delhi.

- Six young scientists took part in the work of Commission K.

- There were four candidates to the position of vice president of the commission:

- Jitendra BEHARI, New Delhi, India
- Guglielmo D'Inzeo, Rome, Italy
- Rafi Korenstein, Tel-Aviv, Israel
- Niels Kuster, Zurich, Switzerland

Professor Guglielmo D'Inzeo was elected. He will become the next chair of commission K at the next General Assembly in Chicago.

Publications

Several papers have been published in the « Bulletin of Radio Science ». They were edited by the vice-chair Frank Prato :

- N Shupak et al. *Therapeutic Uses of Pulsed Magnetic-Field Exposure: A Review*. **Dec 2003**. 9-32
- S Engström. *Physical Mechanisms of Non-Thermal Extremely Low Frequency Magnetic-Field Effects*. **Dec 2004**. 95-106
- A Ahlbom, M Feychting, S Lönn. *Mobile phones and tumor risk: Interpretation of recent results (Sep 2005)*.
- J Lin. *Review on BBB permeability and exposure to ELF and RF (in press)*.

Other activities

- The links between Commission K and the SCT have been strong. Most of the contacts were established with WHO (International EMF Project)
- Several meetings of the national representative of Commission K were organised at various international scientific meetings.
- A major scientific meeting was organised jointly by the commission K, WHO, and ICNIRP¹ in Seville, Spain, in May 2004. More than 250 participants attended the meeting and commission K organised two sessions on medical applications, and MRI and TMS².
- The following scientific meetings have been sponsored by Commission K:

1. *EMF and Cardiac Pacemakers and Defibrillators*, Paris, France, 25 October 2002.
2. *JINA 2002*, Nice, France, 12-14 November 2002.
3. *APMC'02: Asia-Pacific Microwave Conference*, Kyoto, Japan, 19-22 November 2002.
4. *EMC Zurich 2003*, Zurich, Switzerland, 18-20 February 2003.
5. *ISMOT 2003 - 9th Int. Symp. On Microwave and Optical Technology*, Ostrava, Czech Republic, 11-15 August 2003.
6. *International NIR Workshop and Symposium*, ICNIRP/URSI(K)/WHO, Seville, Spain, 20-24 May 2004.
7. *MSMW'04*, Fifth Int. Kharkov Symposium on Physics and Eng of Microwaves, mm and Submm Waves, Kharkov, Ukraine, 21-26 June 2004.
8. *EMC Wroclaw 2004*, Wroclaw, Poland, 29 June - 1 July 2004
9. *AP-RASC 04: 2004 Asia-Pacific Radio Science Conference*, Beijing, China, 20-23 August 2004.
10. *Radar 2004*, Toulouse, France, 19 - 21 October 2004.
11. *JINA-04*, Nice, France, 8-10 November 2004.
12. *EMC Zurich 2005*, Zurich, Switzerland, 15-17 February 2005.
13. *CEFBIO5 2005 - Coherence and electromagnetic fields in biological systems*, Prague, Czech Republic, 1-4 July 2005.
14. *ISMOT 2005 - 10th International Symposium on Microwave and Optical Technology*, Fukuoka, Japan, 22-25 August 2005.
15. *International Workshop on Electromagnetic Fields at the Workplaces*, Warsaw, Poland, 5-7 September 2005.

No new **resolution** was proposed by Commission K.

White paper

Commission K has worked on the draft of the SPS white paper and has improved the document mainly as far as the health chapter was concerned. It did not give an opinion on the technology and the legitimacy of the project itself.

A new white paper entitled “wireless communications and health” was proposed to be written under the leadership of Commission K.

Terms of reference

¹ International Commission on Non Ionizing Radiation Protection

In order to clarify the existing text a new formulation of the items was given:

- (a) physical interaction of *electromagnetic fields** with biological systems;
- (b) biological effects;
- (c) mechanisms underlying the biological effects;
- (d) experimental exposure systems;
- (e) assessment of human exposure;
- (f) medical applications.

* (*frequency range from static to terahertz*)

- (a) *interaction des champs électromagnétiques* avec les systèmes biologiques au niveau de la physique ;*
- (b) *effets biologiques ;*
- (c) *mécanismes à la base des effets biologiques ;*
- (d) *systèmes expérimentaux d'exposition ;*
- (e) *évaluation de l'exposition des personnes ;*
- (f) *applications médicales.*

* (*domaine de fréquence du statique aux terahertz*)