

Commission A: Electromagnetic Metrology

Acting Chair: Dr P. Banerjee

Commission A Business Meeting 1, Monday 11 August 2008

Dr P. Banerjee called the Business Meeting 1 to order at 1720 Hrs. Those present introduced themselves giving their name and affiliation, and added their details to the list of participants. 16 members and 10 voting members were present.

Approval of agenda

Dr P. Banerjee proposed an agenda for the meeting. The agenda was approved unanimously.

Election of new Vice Chair

Dr. Schlegel, past president of URSI attended the meeting to help Dr. Banerjee to conduct the election of Vice Chair.

There were four candidates for the post of Vice Chair. They were

1. Nuno Borges Carvalho (Portugal) (could not attend the meeting)
2. William A. Davis (USA) (was present)
3. Min Liu (China CIE) (could not attend for not getting visa to enter USA)
4. Andrew Charles Marvin (UK) (was present)

Dr. Banerjee showed the biodata of all four candidates one by one through the LCD projection.

The Acting Chair had received 5 ballot papers by mail prior to the meeting. Received ballots were confirmed by respective representatives those were present in the meeting. The other voting members voted by paper ballot at the meeting. The ballots were counted by the Acting Chair and Dr. Schlegel. The result was:-

- | | |
|------------------------------------|----|
| 1. Nuno Borges Carvalho (Portugal) | 10 |
| 2. William A. Davis (USA) | 17 |
| 3. Min Liu (China CIE) | 3 |
| 4. Andrew Charles Marvin (UK) | 11 |

Dr. Schlegel left the meeting immediately after the election process was over. The members expressed thanks to Dr. Schlegel for his help and for sparing his time.

Young Scientist Party was supposed to be attended by the Chairs of all ten commissions. To attend the party the Business Meeting was supposed to be ended by 1800 hours. So no other agenda could be taken up.

The Chairman adjourned the meeting at 1800Hrs.

Commission A: Electromagnetic Metrology

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Commission A Business Meeting 2, Wednesday 13 August 2008

Business Meeting 2 was started at 1720 Hrs. Those present introduced. 13 members were present.

Approval of agenda

Dr Banerjee proposed an agenda for the meeting. The agenda was approved unanimously

Summary of Council Meeting of August 12, 2008

Chairman informed the audience of the outcome of the election of the Chairs and Vice-Chairs of the URSI Commissions. The council approved the election of Dr. William A. Davis as Vice Chair and Dr. P.Banerjee as Chair of Commission A at the meeting of August 12, 2008.

There were only 62 papers in Commission A out of total paper of 1456 in the current GA. This reflects that there was lack of encouraging response from Commission A. There was discussion on how to increase Comm A participation. Dr. Banerjee requested members to generate awareness of URSI in their respective countries and promote activities on Electromagnetic metrology. This effort would make the participation in URSI GA more useful and meaningful. It is also desired that all delegates interested in commission should attend the business meeting.

Associate editor for the Radio Science Bulletin for Commission A should be the duty of the vice chair. There should be more contribution from Commission A for the bulletin -at least 2 papers per commission per year.

URSI would like to increase visibility. URSI has selected to develop white papers on areas of impact to society. (EM effects on human health and Power from Satellites are two examples)

URSI formed a long-range planning committee to develop long-term goals from each commission to have an impact on the society. Long-Range planning committee composed of past chairs. Prof Cannon has been selected the chair for 2008-2011.

Chairman informed the members that there were three (3) countries bidding for the venue of the 2011 URSI GA e.g. China (CIE), Sweden and Turkey. Venue is to be decided at the Council meeting of August 14, 2008.

Topics of discussion

The website of commission A has been a longstanding issue. Dr Davis kindly offered to host a Web-site for Commission A. He gave a detailed presentation on his plan. This

was followed by a discussion. All members of the Commission are expected to contribute to the site.

Activity Reports of Members

- a. Portugal organizes National symposium on URSI matters
 - Last year had participation from Spain.
 - This year it is being tried to get participation from Africa and Brazil.
- b. Dr. Banerjee asked to report country activities to the chair and to others.
- c. France Published "Measurements in Electromagnetics," part of a series for URSI. More information on this should be given to the chair.
- d. Italy will also have a meeting in 2012.
- e. Belgium and Netherlands are having joint meetings every 2 year. The next meeting in 2010 focuses on nonlinear device measurements.

AP-RASC 2010

Dr. Hosokawa of Japan informed the members that Asia Pacific Radio Science Conference (AP-RASC 2010) would be held in Toyama, Japan 2010. AP-RASC of 2007 was postponed by Australia.

Discussion on Technical sessions of Next GA

Chairman requested all members to make spadework for discussions on the themes of Technical sessions of Next GA. The skeleton of technical programme for Commission A may be worked out in the Business Meeting 3.

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No other business was tabled. Chairman adjourned the meeting at 1815 Hrs.

Commission A: Electromagnetic Metrology

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Commission A Business Meeting 3, Friday August 15, 2008

The Business Meeting 3 was started at 1720 Hrs with the introduction of members. 11 voting members were present.

Approval of Agenda

Dr Banerjee proposed an agenda for the meeting that was accepted unanimously.

Report of Council Meetings

Dr. P.Banerjee reported the result of the venue of 2011 to be Istanbul, Turkey.

A note submitted by Dr. E. Bava past Chair of Commission A was read out by Dr. Banerjee in the meeting for the consideration of members.

“At the international level it has been recognized that, beside the traditional metrology mainly concerned with measurements of physical quantities, new areas have emerged where measurement methodology, improved accuracy and traceability are needed. These areas are health, ambient and climate where measurements rather complex are required and electromagnetic metrology already plays an important role.

Moreover the International Committee of Weights and Measures (CIPM) has recommended that the National Metrology Institutes increase their efforts in the determination of a few fundamental physical constants in view of a possible decision, to be taken at the next General Conference of Weights and Measures (CGPM) in 2011, on new definitions of SI fundamental units based on fixed values of physical constants.

Moreover at the European level a coordinated research program has recently started organized along 4 targeted programmes:

1. fundamental metrology including determination of fundamental physical constants and optical frequency standards and optical frequency comparisons
2. health including diagnostics, therapy and biotechnology
3. mechanics including nanotechnology
4. electromagnetics including nanotechnology

The above description suggests that links with Commissions D, E and K should be maintained and possibly strengthened. Moreover the proposed joint session on optical standards with Commission D is a positive proposal, however this JAD session does not fit completely the important topics of Comm. A

- a. expected new results obtained with Cs fountains operation at liquid nitrogen temperature (accuracy 10^{-16} ?)
- b. contributions of metrology to science such as determination of physical constants (not only those of interest for a redefinition of SI units) “

Discussion on Technical sessions of Next GA

The outline/programme of 2011 GA was presented by Dr. Banerjee. Many joint sessions like AC, AB, AD, AG AKC, AJ and AE are being planned. Dialogue with many of the chairs has been initiated. It has been felt that Joint sessions will generate better participation and interest. Skeleton of Technical programme for 2011 GA emerged as

- AC Measurement related to Wireless Communications
- AE EMC Measurements
- AB Antenna Measurement
- AD Optical Metrology
- AK EM Exposure and Human Health
- AJ Pulsar Timing/VLBI
- AG Ionosphere in GNSS Timing
- A EM Materials
- A Time Scale Generation and Distribution
- A Quantum Standard
- A Nano Metrology
- A THz Measurements
- A Microwave Measurements

Based on the above plan the final programme will be evolved.

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Dr Banerjee on behalf of members of Commission A thanked all session's conveners for their excellent cooperation and all speakers for their kind participation in Commission A.

No other business was tabled. The Chairman adjourned the meeting at 19:00.