



EDUCATION & STUDENT ACTIVITIES
COMMITTEE
(ESAC)



Unconfirmed Minutes of the
IEEE EMC Society Education & Student Activities Committee
Meeting at the IEEE EMCS Symposium
Minneapolis, MN
Tuesday, August 20, 2002

1. Call to Order – Introduction
 - 1.1 Chairman Maqsood Mohd started the meeting at 7:00 am. Maqsood thanked everyone for coming.
 - 1.2 Introductions were made of everyone present.
2. Review of Draft Agenda
 - 2.1 No new items were added to the agenda.
3. Announcements
 - 3.1 No announcements were made.
4. Minutes of Last Meeting
 - 4.1 The minutes of the August 14, 2001 committee meeting were approved.
5. Old Business
 - 5.1 Brief Subcommittee Reports
 - 5.1.1 Demonstrations

Andy Drozd reported that we have two types of demonstrations this year, including 25 of our usual “hardware” experiments, and 16 computer modeling demonstrations. Andy reported that things have gone very well in setting up this years experiments. He reported that the hardware experiments are now an “institutionalized” part of the Symposium, meaning that planning and preparation for the experiments is under the purview of the Symposium Committee (rather than Andy and Larry being

responsible for all the details). Andy noted that Greg Lawrence and Ed Dunlap have done an excellent job of getting all the equipment needed for the experiments, which are set up in the back of the exhibit hall. The computer modeling experiments have not become an “institutionalized” part of the Symposium yet, but hopefully will become so in the future.

Andy led the Committee in officially thanking Larry Cohen for all his hard work and the excellent job he has done the last several years. Larry’s help has been instrumental in establishing the demonstrations as an integral part of the Symposium. Thanks very much, Larry!

5.1.2 Experiments, Vol. II

Jim Drewniak and Dick DuBroff reported that significant progress has been made on Volume 2 of the Experiments manual. Four experiments are now available on the IEEE EMC ESAC website (at <http://www.ewh.ieee.org/soc/emcs/edu/exper.htm>), and two more are almost ready for posting. In addition, work has progressed on several other experiments. Jim and Dick anticipate that we will eventually have 12-15 experiments available. Collaboration with the demonstrators continues, with the hope that new experiments will become available in the near future. Jim also welcomed experiments developed by university students.

5.1.3 NARTE

Jim Whalen reported that the tutorial on Monday had about 34 “serious” attendees, with an additional 15-20 which stopped for at least part of the session. The exam will be given on Friday. This is the ninth year of the activity.

Russ Carstensen mentioned that a new agreement has been formalized between NARTE and IEEE which requests the assistance of IEEE technical committees in reviewing new exam questions. Russ reported that each exam question will be reviewed by three people. Russ also reported that NARTE is in the process of establishing a similar procedure in the area of product safety.

5.1.4 Tutorials

Maqsood reported that Monday’s Tutorial sessions went very well. This is the ninth year of the tutorials. Attendance was very good - especially considering that the second projection system was not working correctly. Maqsood reported that we had three rooms which were joined together to make one very large room. In the morning session all three rooms were almost full, and in the afternoon session there were open chairs in about ½ of one of the rooms. He estimated the total attendance to be around 300.

Maqsood has already been in contact with the Symposium folks for next year.

5.1.5 EMC Outreach

Maqsood reported that EMC Outreach remains an active area. He reminded us that the functions are divided into three target areas: kindergarten through high school, college/university, and professional. This past year the most significant activity has been in the K-12 area. From November through March Maqsood visited high schools and middle schools in his area, and gave many presentations about electrical engineering and EMC. In addition, he has helped with science and engineering fairs. Maqsood reported others have carried out similar functions. Jerry Myerhoff reported that Motorola has sponsored career fairs for high school students, and has also has provided presentations to the University of Chicago. Jerry will make copies of his slides available to the EMC society via the ESAC website. Hugh Denny suggested that we consider gathering the material that folks use for such presentations into a hardbound version. He suggested that this could become useful tutorial information.

Vichate Ungvichian suggested that we expand the scope of our outreach activities to include the international community. Vichate has worked with the government of Thailand on various outreach issues. Maqsood agreed that this is a great idea, and suggested that as a starting point the ESAC committee do whatever we can to assist individuals like Vichate who already have contacts and working arrangements in the international arena. Perhaps Vichate's interaction with the Thai government can serve as our model of how to help other countries. Gregg Kervill said that he has helped establish a non-profit organization (eGlobalEd) which is developing a global information base that can be used by new companies throughout the world to become knowledgeable of current standards in the areas of product safety, EMC, etc. Gregg offered to help in the international arena in whatever ways he can (the website for the organization is <http://www.eGlobalEd.org>).

5.1.6 University Grant

John Howard reported that this past year marked a very significant change in the University Grant area. Unlike recent years, by the proposal deadline John had received 14 excellent proposals. Several other proposals came in after the deadline, which unfortunately had to be declined. John reported that proposal quality was very good. The winner of this year's \$10,000 grant was Clemson University, with Fred Tesche being the PI. John suggested that we are receiving great leverage from this activity. Not only are we helping some excellent universities develop EMC curricula, but we

are also providing incentive and encouragement to many other universities to move in this direction. He anticipates that several of the proposals submitted this year will be submitted again. He looks forward to receiving more outstanding proposals.

Two of our previous winners gave presentations of how they used the funding we provided. Randy Jost (Utah State University - USU) was the winning PI last year. Randy reported that the new course at USU had about 30 students, who provided great feedback to Randy. Randy used the sample syllabus available in the experiments manual as a springboard for the course. He modified it where appropriate, and included cooperation from industry whenever possible. The course included a laboratory component, and the students had to complete both a software project and a hardware project. Randy reported that Tom Van Doren had assisted him in the course development – for which he was very grateful. Randy has been developing a pool of guest speakers, and indicated that future offerings may include both Utah State and the University of Utah. A distance education course is also being planned. Randy said the students were very enthusiastic about the course. They particularly appreciated how the EMC course seemed to tie together concepts from a variety of courses.

Mark Steffka also provided a report. Mark was the PI for the proposal from the University of Michigan-Dearborn that won the 1999 Grant. Mark said that UM-D now has two EMC courses, and hopes to eventually have four courses. At the moment, ECE 319 (Introduction to EMC) and ECE 420 (EMC Test and Instrumentation) are being offered. The feedback from these courses has been very positive – from students, faculty and regional industry. As a result of the enthusiasm about EMC, faculty are beginning to look for ways to incorporate EMC concepts in their “regular” EMC courses (signals and systems, electronics, etc.) Local industry has been very helpful, providing guest speakers and tours of industrial facilities. A proposal was submitted to NSF (National Science Foundation) to secure funds for the development of EMC lab facilities. Mark reported that the NSF proposal was funded, partly due to the support provided by the university and General Motors via \$50,000 of matching support from the university, and the donation of a shield room by General Motors. Mark reported that future projects include completion of the lab facilities and incorporation of EMC experiments into the EMC curriculum.

Maqsood led the committee in extending a rousing “thank you” to both Randy and Mark for all of their hard work. Zorica led the committee in thanking John Howard and Kimball for all of their work in establishing and maintaining the EMC grant program.

5.1.7 University Survey

Antonio Orlandi was unable to attend this year's Symposium, so Bob Nelson presented his report. Since last year, four new universities have completed the survey. Antonio suggested that this is a good time to provide a concentrated push in this area. He suggests that we consider more serious and continuous advertisement of the survey, consider moving the survey "home" from the website at his university to the IEEE EMC ESAC website, and that we find a way to allow the survey results viewable online (perhaps in a password-protected fashion). Dick Ford offered his assistance if Antonio wants to make any changes in the survey format/content.

5.1.8 Video Productions

Dick Ford reported that he has material for three videos (on VHS) which he has taken at recent Symposia (including experiments done by Clayton Paul at the 1999 Symposium, experiments by Doug Smith from the 2000 Symposium, and footage from the 2001 Symposium). Dick plans to put all of this material on a CD, but is currently waiting on information about what budget is available for such purposes. He also made a CD from one of the recent "War Stories" sessions chaired by Don Bush - which is available at the IEEE booth. Dick also has footage from several other experiments that can be converted into a different format. John Howard and Gregg Kervill offered their assistance to Dick in the process of making CDs.

5.1.9 Student Activities

Maqsood reported that the Student Paper Contest went very well this year. There were 23 entries. As done in the past, each paper was examined by three independent reviewers. The winning paper was "Ultra-fast Broadband EMI Measurement in Time Domain Using FFT and Periodograms" by Florian Krug of the Institute of High Frequency Engineering, Munich, Germany. Maqsood also provided the report on the Student Design Contest (since Ahmad Fallah was not able to attend the meeting). In response to student requests, Ahmad sent out 33 design kits. Of the 33 kits sent out, 5 kits were submitted to Ahmad. The final entries were very good, and the winning entry was from Stella Filippatos and Frederic Dumas of Ecole Polytechnique de Montreal, Canada.

5.1.10 Standards Education

Hugh Denny provided an overview of the Standards Education Committee (SETCoM). Hugh reported that that SetCom has provided information to the EMC Society via workshops and articles in the IEEE EMC Newsletter.

Hugh said that a series of Newsletter articles is planned for the upcoming year. He also reported that SetCom needs a new Chair. Hugh suggested that a closer tie between SetCom and the ESAC is quite desirable, and suggested that future workshop sessions be coordinated with both SetCom and ESAC. Hugh will gladly receive nominations for the Chair position.

5.1.11 Website Activity

Randy Jost reported that several items have been posted on the ESAC website (<http://www.ewh.ieee.org/soc/emcs/edu/index.html>), including the experiments mentioned earlier by Dick and Jim. Randy suggested that the ESAC site serve as a central repository for information about EMC, and offered to post information that folks send to him. Bob noted that Randy has been instrumental in maintaining the website, and led the committee in thanking Randy.

6. New Business

6.1 2003 IEEE EMC Symposium in Istanbul, Turkey

Elya Joffe encouraged active participation in the 2003 IEEE EMC Symposium in Istanbul, Turkey. Elya has a coordinator to lead the charge for Education and Student Activities, but needs the support of our committee. In particular Elya asked the committee's assistance to facilitate the Fundamentals Tutorial, the NARTE exam, a session on EMC Education, and the Demonstrations/Simulations session. Elya pointed out that the Fundamentals Tutorial session will be particularly helpful, as there will likely be many "first timers" at the 2003 Symposium. Elya said he also hopes that an ESAC meeting will be held in Istanbul.

Dick Ford observed that the first "international" EMC symposium was in Montreal – which was still in North America. As such, it is very important that the Istanbul Symposium be successful. Kimball said he will be at the Istanbul Symposium, and could fill in to Chair an ESAC meeting, if need be.

7. Adjourn

The meeting adjourned at 9:10 a.m.

Respectfully submitted,

Bob Nelson, Secretary