

International Director's Report

AESS BoG – Roma, (Italy), 25-26 September 2009 – Marina Ruggieri

The activities that have been undertaken in the last six months are described in the following together with the perspected ones for the next six months. They will be presented in greater detail at the BoG by those International Directors who will attend the meeting (*Dr. Ram Gupta, Prof. Hugh Griffiths, Prof. Wu Sunjun and myself*).

1. Dr. Ram Gupta – India

PROGRAM 1: An 8-day (six lecture hours per day) Lecture Course entitled "Fundamentals of Electromagnetics" was delivered by Professor Nannapaneni Narayana Rao, Edward C Jordan Professor Emeritus of Electrical & Computer Engineering at the University of Illinois at Urbana-Champaign during 3-11 June 2009 at Hyderabad. The objective of this Lecture Course is to re-visit, refresh and gain a better understanding of the fundamentals of electromagnetics. A total of 34 participants attended this course. Most of these are faculty members from different engineering colleges, who are currently teaching this course as part of the under-graduate engineering curriculum. Each participant received copies of two books written by Professor Rao, and about 800 pages of lecture notes. Based on the success and extremely positive feed-back received, it is decided to conduct another Lecture Course during winter, or next summer, by the same Professor on the subject of "Transmission Lines"

PROGRAM 2: IEEE All-India Student Project Contest, which is open to all IEEE Student Members in India, was held on 8 August 2009 in Hyderabad. IEEE India AES/Com/LEO Societies Joint Chapter was a co-sponsor of this Contest. A total of nineteen entries were received from different parts of India. These were screened by a Panel of Judges and eleven of these accepted to be included in the CD-ROM publication. On the basis of a further selection, authors of four entries were invited to come to participate in the IEEE Students Congress and demonstrate their products. Final Award winners were then selected. This year, none of the entries in the AES fields of interest could win the Award. The quality of entries this year has been high, compared to previous years. A CD-ROM containing the selected entries is separately released.

2. Prof. Hugh Griffiths – UK and Ireland

As mentioned in the 2009 Spring Report, a Workshop on Multistatic and MIMO Radar was held on 17 April, with the kind support of ONR Global. The objective of the Workshop was stated to be: 'to discuss and identify priorities and initiatives in multistatic and MIMO radar'. The event was by invitation, and drew 36 participants from 7 countries. The format of the event was arranged in four sessions covering (i) S&T issues of MIMO radar, (ii) Air defence/surveillance, (iii) Maritime harbor/port surveillance, and (iv) Indoor surveillance. Each session consisted of a short keynote presentation to set the

scene and pose some questions, followed by a moderated discussion. Hugh would like to publish the report in the AES Magazine.

A particular success was the nomination of Dr Philip Woodward for the IEEE Picard Medal. Woodward is the originator of the ambiguity function, and it must literally be true that every serious radar engineer on the planet will have encountered this. Since he is 90 years old he did not feel able to travel to Los Angeles for the Awards Banquet in July, but Hugh is organizing a presentation lunch for him in October, with funding from the UKRI Section.

The Chapter has been asked to contribute to the forthcoming international IEEE/IET/DEHS CAVMAG conference to be held at Bournemouth University in 2010 to mark the 70th anniversary of the invention of the cavity magnetron by Randall and Boot at Birmingham University. In particular he has been asked to invite Dr Eli Brookner (AES Distinguished Lecturer) to participate.

Much of the Chapter's work is done in collaboration with the IET Radar Professional Network, and plans are now being laid for the next IET Radar Conference in the International Conference Series, most likely to be held in Edinburgh in October 2012. There is concern that the economic downturn and the large number of conferences in the calendar will put pressure on attendance; the emphasis should be on a smaller number of high-quality conferences – but the IEEE RADARCON event held in Rome in May 2008 shows that this can be done very successfully.

3. Dr. William Lyons – Australia, New Zeland

(1) UAV Outback Challenge is now in its third year with participants from all over the globe. Although AESS is not sponsoring this year, the AESS Queensland chapter has a presence at the Challenge through an information stand and judges -

<http://www.uavoutbackchallenge.com.au/uavoutbackchallenge/>

The Challenge will be held in Kingaroy, Australia from 28 September to 1 October, 2009. Bill will be present

(2) Bill has met with AESS members at University of Queensland in the School of Engineering to encourage them to join the AESS Queensland Chapter. It seems members we not aware that there was even a Queensland Chapter.

(3) Bill been asked to take a temporary assignment down in Australia until at least the end of the year as the VP and general manager of Boeing Research and Technology - Australia.

4. Prof. Igor Immoreev – Russia

In 2007 Igor has offered lectures in Moscow. Igor had informed about execution of these lectures in the Spring 2009 report. No additional activities are reported.

5. Prof. Wu Sunjun – China

The activities performed in the last six months are hereinsfter listed:

1. On behalf of the Co-Chair of IET International Radar Conference, Sunjun took part in some organization work, attended the Conference in April 20-22, 2009 in Guilin, China, presided over the Opening Ceremony and Closing Ceremony.
2. On behalf of the Chair of Technical Program Committee of The 2009 Asia-Pacific Conference on Synthetic Aperture Radar(APSAR 2009), he organized the submitted papers review and edited the Proceedings of APSAR 2009.
3. He attended the IEEE International Geoscience and Remote Sensing Symposium (IGARS 2009) in July 13-17, 2009 in Cape Town, South Africa. He met there Prof. Tony Milne, Prof. Alberto Moreira, Dr. Scott Hensley, Prof. Wooil Moon, Prof. Florence Tupin, Dr. Scott Hensley, Prof. Motoyuki Sato, etc. I discussed the Plenary Session and tutorial lectures of APSAR 2009 with them.
4. He attended the IRS 2009 in Hamburg, and met the Pro. Joachim Ender, chair of 2010 EURSAR 2010 to discuss the support each other between APSAR and EURSAR. They have decided to select a Chinese expert to attend the EURSAR 2010 and give a Keynote Speech on the SAR technology in China.
5. He met Dr Robert Hill in IRS 2009 in Hamburg and discussed the radar conference in turn of 5 years. I have represented the China Institute of Electronics (CIE) and the Radar Society of CIE to express China will try best to hold the RADAR 2011.They will send the letter about this matter to discussion meeting at RADAR 2009 in Bordeaux, France.

For the future six months the envisaged activities are the following:

1. He will work heavily for the APSAR 2009 in Oct.26-30, 2009 in Xian China.
2. He and Prof. He Ruilong, the Chair of Radar Society of CIE would attend the RADAR 2010 which will be held in Washington, DC between May 10th and 14th.
3. They will start the organization work about RADAR 2011 after APSAR 2009.

6. Prof. Marina Ruggieri – Italy and Western Europe

The relevant international activities in the area of Italy and Western Europe have been strongly interleaved with those of the Space Systems Panel, which are included in the related report delivered to Bob Lyons. The following events and activities are worth being mentioned in the International Report:

On July 6, 2009 IEEE Italy GOLD, the AESS Space Systems Technical Panel and the Italian Joint Chapter Signal Processing/AES have celebrated 125 years of IEEE and 50 years of IEEE Italy Section in Villa Mondragone (University of Roma Tor Vergata, Italy). The Event has been sponsored by AFCEA (Armed Forces Communications and Electronics Association) Rome Chapter and the IEEE Italy Section.

On May 17-20, 2009 the First International Conference on *Wireless Communications, Vehicular Technology, Information Theory and Aerospace & Electronic Systems Technology* (Wireless VITAE) 2009 has taken place in Aalborg (Denmark), with the technical co-sponsorship of AESS.

On September 28-October 2, 2009 the *European Microwave Week 2009* will take place in Rome (Italy), with the technical co-sponsorship of AESS. The Event includes, in particular, the *European Wireless Technology Conference* (EuWiT).

IEEE Italy GOLD, the AESS Space Systems Technical Panel, CTIF_Italy, AFCEA Rome Chapter and Telespazio are organizing in Villa Mondragone (University of Roma Tor Vergata, Italy) a Workshop on *Data Security in Satellite Applications and Final Results of Intersection Project - Satellite Data Intrinsic Security Faces New Threats and Offers New Opportunity*, gathering speakers from civil and military institutions, industry and universities. The Event will take place on October 26, 2009

A series of lectures on topics related to systems of systems has been organized in Scandinavia (Lund, Copenhagen, Aalborg) and Italy by a joint effort of CTIF_HQ (Denmark), CTIF_Italy, the AESS Space Systems Technical Panel and AFCEA Rome Chapter.

Roma, September 21, 2009