



From the editor....

Welcome to the first newsletter of the new financial year, although it is a bit late. The AGM was held in August and was again a successful occasion although numbers were down on previous years. As you can see from above Adrian Richards was elected to President and yours truly to Secretary. We welcome two new councillors, Daniel Fletcher and Darren Kohlhagen, and we hope their time on the committee is enjoyable. The outgoing President, John Robson, thanked all outgoing council members for their contribution over their term of office and welcomed the new members.

The guest speaker was Kevin Wilkins from Ngapartji Multimedia Centre. Kevin gave a brief history of Ngapartji and then gave an overview of the current status and trends of the www as well as some crystal ball gazing on future technologies and developments.

We hope to have regular sections in the newsletter including President's column, last meeting report, BEAG, meeting and conference calendar, www update and a feature article. All contributions are welcome.

We still wish to circulate the newsletter by email when this is practical so please let me know your email address if you have one.

Robin Woolford

From your President.....

Welcome to the first of what is planned to be a regular feature within your newsletter. I hope to keep you in touch with what is just around the corner within the SMBE in particular and the broader healthcare scene in general.

Firstly I would invite all members to give myself personally or any member of the council as much feedback as possible on how we are going in running the Society. We attempt to do this as best we are able based upon the aims and objectives contained within the constitution and what we perceive as being sought after by yourselves. There is however no substitute for some direct comment, either positive or negative, on how we are shaping up. Letters to the editor are, as always, welcome to stimulate some discussion.

The coming year looks very exciting with the forthcoming workshop on the recently revised Australian Standard 3003 which details the requirements of installed wiring within patient treatment areas. This is an event which has broad relevance across the disciplines involved in the design, installation, testing/commissioning and subsequent use of these areas. Two experts from interstate will be addressing us on this occasion.

We are also planning another similar event some time early within the new year on the topic of testing of laparoscopic ESU instruments. This is following the lead of our peers in NSW where insulation failure of these devices and subsequent patient burns has been under evaluation for some time. As an indication, most hospitals instigating tests are experiencing failure rates of around 20% on the first pass, so it is a problem not to be ignored. This will be planned as a hands on event with examples of test setups and equipment.

A good meeting is also shaping up on the plans here within Australia to introduce free to air digital TV transmissions and the likelihood that existing medical telemetry systems will loose their allocated frequencies as a result of this. Co-existence may no longer be possible as it is now due to the spectral nature of the digital transmissions, with test transmissions in some capital cities having already started to cause problems I believe. We will keep you posted on this one.

Mention must also be made of the significant movements taking place in the corporate world. It is well apparent that the move is definitely towards domination by the big organisations. Acquisition of the specialists ultrasound manufacturer ATL by Philips marked the start of a run of similar events. We also saw the massive GE Corporation (which globally employs in excess of 260,000 people) acquire one of Australia's leading private Sydney based BmE providers, SC Medical. This saw the serious launch of GE Healthcare services here in this country. Kodak made a move and acquired archival in the medical imaging stakes Imation, a former 3M offshoot company. GE moved again and announced a merger with the specialist monitoring system supplier Marquette. The rumours are strong that GE has further BME plans here within Australia and more particularly South Australia.

I look forward to hearing from you.

REPORT ON MEETING

VISIT TO THE AIRCRAFT MAINTENANCE FACILITY OF ANSETT AUSTRALIA

The Society was recently privileged in being able to arrange a visit to the aircraft maintenance facility of Ansett Airlines, located at the Adelaide airport. This was through the generosity of Mr Matthew Eddy, Engineering Maintenance Manager for SA and NT.

Ansett run a fleet of 85 aircraft of various models and ages, five of which were undergoing work on the night of our visit. Two of these were Boeing 737's which were located within the maintenance hangar in various states of disassembly, undergoing either programmed checks and tests or routine maintenance and replacement of engine and other components. Ansett has a substantial maintenance, training and inventory infrastructure, the hub for which is located in Melbourne. Their Adelaide facility employs approximately a dozen staff who will be split evenly between day and night shifts. The bulk of the major work takes place during the night which justifies the 9pm starting time of our visit.

Matthew tailored his commentary to specific questions or interests of our members which saw a broad range of topics covered from maintenance schedules to fresh airflow through the aircraft cabins.

A few "interesting" points that arose included:

Most control systems within aircraft, which with the 737's are still cable based, have triple redundancy. Later aircraft such as the A340 Airbus which we also were able to inspect are much more computer based with the classic pilots controls being replaced with a joystick which would not look out of place on a computer game!

Fuel capacity of a 737 is approx 24,000 litres which rises to 250,000 for a 747-400.

A single plane grounded for technical reasons can wreak havoc on scheduling for the airline, with as many as 170 flight schedule changes having to be made as a result. This will occur up to twice a week on average.

An aircraft suffering a lightning strike, which is not uncommon will need to undergo a particular set of inspections, taking approximately two hours.

Staff performing maintenance typically start their training with a four year apprenticeship followed by a range of generalised and then specialised courses and examinations (up to 25). This program is soon to be given degree status. They will specialise in airframe, engines or avionics.

Maintenance procedures use the manufacturers recommendations as a base, upon which are added locally derived additional activities.

Spare parts used are either obtained directly from the manufacturer or are second sourced from a third party supplier. In the case of the later the parts must have been through rigorous testing and validation prior to sale.

Accidents and subsequent deaths caused by a specific maintenance problem may result in the individual responsible being charged with manslaughter.

The typical life of an aircraft such as a 737 is quoted as being of the order of 60,000 take off and landing cycles.

A range of non destructive tests are used during engine and airframe testing including X-rays, ultrasound and boroscopes, the industrial equivalent of medical endoscopes.

The air within the cabin of an aircraft is typically changed every two minutes.

Many aircraft will have a "turbine" generator that can be deployed and towed behind the craft to provide essential power should all main and auxiliary engines fail.

Pressurisation within the cabin is achieved by using the aircrafts velocity to force air into the cabin and using a regulating valve to control the amount allowed to escape.

An aircrafts "black box" flight recorder is actually orange in colour!!

Anyone keen enough to stow away within the landing gear space of an aircraft must be desperate as it a particularly inhospitable location!!

The evening proved to be extremely interesting and we needed to wind things up at 11pm otherwise I am certain that there would still have been people climbing in and under aircraft at midnight!!

This general interest tour had quite an overwhelming response and apologies are extended to those members who were unable to join us. We needed to limit numbers to avoid problems and maintain a sense of order both within the hangar and whilst crossing the tarmac. The good news is that Matthew has agreed to repeat the exercise within the not too distant future. Those who have already responded will be contacted with the next date whilst any other members who may be interested should contact me.

Adrian Richards

BEAG report

This will be a regular section in the newsletter. BEAG continue to meet on a bimonthly basis, rotating around the member hospitals.

The main topic of discussion at the moment is Y2K or "the millenium bug". BEAG have been recognised as the expert body on Y2K issues with biomedical equipment by the Department of Human Services Y2K Steering Committee. John Robson represents BEAG on this committee. BEAG have developed a test protocol and procedure based on the John Hunter Hospital test procedure with some variations. Most hospitals are now well advanced in addressing the Y2K issues with biomedical and other equipment.

Equipment Maintenance software has also been the subject of considerable discussion. Several packages have been trialed by BEAG members with the ultimate being a package that would be used by all member hospitals. BEAG developed a specification for a system with the view to getting a package written to their requirements. All commercially available packages require varying levels of compromise from the way most BME departments now operate. This evaluation is continuing.

Robin Woolford

Secretary, BEAG

AS3003 Seminar

As mentioned earlier the AS3003 seminar has been set for Tuesday 10 November from 3pm – 7pm at the South Park Motor Inn. Rob Wilkins and Lawrie Knuckey will be the guest speakers at this meeting. Cost will be \$30.00 for members and \$45.00 for non-members. The cost includes a meal. Please mark this in your diaries. Formal notification will follow shortly.

Christmas Dinner

The Christmas Dinner is still being organised but will be on either 1 or 2 December. More to follow on this.

MEETING CALENDAR

Please mark the following dates in your diary. Technical meetings will be held in the 3rd week of the month. Where no date is set, this will be advised as soon as possible as will the topic of the meeting.

Tuesday 10 November 1998 AS3003 Seminar

Tuesday 24 November 1998 John Hughes, EPSM98 guest speaker

November 15th - 19th 1998 Conference, Tasmania

Tuesday 1 or 2 December 1998 Christmas Dinner

CONFERENCE CALENDAR

29th October -1st November 1998 20th Annual International Conference of the IEEE Engineering in Medicine and Biology Conference-Biomedical Engineering Towards Year 2000 and Beyond, Hongkong. <http://www.ee.cuhk.edu.hk/embs98.html>

15th - 19th November 1998 EPSM98 "Relevance Beyond Rationalism" Hobart , Tasmania

30 June-6 July 1999 XVII International Symposium of Biomechanics in Sports Perth WA

Information on the above is available from the editor or president.

E. & O. E.