From the President of SMEEA

In March I spent a Trade Day at the Avalon Airshow with a retired Qantas 737 Captain and in April a day with Puffing Billy including a look at the workshop at Belgrave. The contrast in technologies between these transport industries is very striking of course. The emphasis in the aircraft industry is to make everything as light as possible, whereas in railways, even with narrow gauge, it is heavy engineering. At Avalon I would have liked to have placed an order for a so-called ‘powered glider’, a beautiful machine with a little engine to help with takeoff or to get you to the next thermal; or for the Australian-made ‘Boomerang’, a four seater single engine plane designed for training purposes. Ah well, one can always dream. At Belgrave we were hauled to Lakeside by the impressive and intriguing Beyer-Garrett with two sets of driving wheels. Prior to the trip it had spent some time on shunting duty putting our train together and to watch it hissing and panting and moving gracefully was really quite an experience.

On a sadder note, Fred Symons died earlier this year. His death was sudden and unexpected. From 1989 to 1996 he was the Telstra-funded Professor of Telecommunications and Information Engineering in the Department and he greatly expanded our telecommunications activities during this time. Peter Gerrand (MEngSc 70) made an excellent address at the funeral about Fred’s career and many of our graduates were there, mostly those who had worked with Fred at the now-extinct Research Labs. The transcript of Peter’s address is available on our website.

Alan Finkel (BE 75, PhD 81) has been named as the incoming Chancellor of the University, to take up duties at the beginning of next year. He follows Jerry Ellis, another electrical engineer but not a Monash graduate. Alan has had a most distinguished career to date and it is great to see one of our graduates rising to such an honoured position at Monash. We wish him well in this very challenging position. Further details are given below.

The Doug Lampard Prize for the best PhD thesis in 2006 has not yet been awarded. The Committee is still deliberating. There are plenty of contenders so we should be able to reach a positive conclusion eventually.

From the Head of Department

As you know, David Morgan admirably ran the Department for 05 and 06, and it is now my turn to take on the challenge of shaping the department’s future. My vision is that we should be training the engineering leaders of the future, in government, corporate, start-up and education. To this end, I encourage your opinions on the future of electrical and electronic engineering. Already we have remodeled the course to reflect changing technology and ‘globilised’ industry. For example, rather than basing digital signal processing on analog concepts, we now start ‘digital first’.

The students love processing audio signals in the labs, though the noise was considered to be an OH&S issue. Also, we are strengthening systems engineering, rather than components and circuits, as this is Australia’s place in the value chain of electronics.

Our students are now able to design systems on a chip from Level 2 upwards using FPGAs. We continue to be strong in power electronics and this is now a Level 2 subject. Level 3 and 4 students have a rich choice of electives, covering robotics, communications, biomedical, computer systems and numerical methods, control and power systems and drives. We have also spent $0.5M on undergraduate equipment to support these electives, including 16 3-GHz RF signal generators and spectrum analysers. No doubt some of you wish that you were students now! Arthur

Cherry-Hooper Differential Amplifier in its front end (a Monash invention for audio amplifiers). This one works at 10 GHz and precedes a 40Gs/s ADC! Arthur was also a recipient of a ‘2007 ATSE Clunies Ross Award’ for ‘Excellence in the application of science and technology for the economic, social or environmental benefit of Australia’. Further details are available on the University website.

In other news of staff Kim Ng moved further into retirement at the end of 2006. He has made an enormous contribution over many years in the Department and is remembered with great affection by the thousands students that have passed through his hands. Brendan McGrath (BE 97, PhD 03), who won the Lampard Prize for 2003, has recently joined the academic staff of the Department.

Our Annual Dinner and AGM will be held on 27th June this year in the usual format. Details and information about how to book are available separately. Our guest speaker will be Ross Gawler (BE 71, PhD 79) who has had an interesting career in the SEC and in consulting work. The title of his talk is ‘An Engineer Masquerading as an Economist’ and it should be very interesting and entertaining. We hope to see lots of graduates there.

Bill Brown
Alan Finkel to be Chancellor

(From email sent to all staff on Alan's appointment.)

Respected neuroscientist, entrepreneur and philanthropist Dr Alan Finkel will be the next Chancellor of Monash University. Alan is the seventh Chancellor in the University's 50 year history, but the first Monash graduate to be appointed to the prestigious role. Vice-Chancellor Richard Larkins said it was a coup for the University to secure the services of such a prominent Australian. Alan will bring a wealth of experience and skills to Monash, from his experience with medical research, the commercialisation of scientific discoveries, through to the governance of complex organisations.

'Like Monash University, Alan has a truly global perspective on the links between science, innovation and education. As a Monash graduate and the current chair of the National Research Centre for the Prevention of Child Abuse, based at the University, Alan is already very much part of the Monash family.'

Alan said he looked forward to starting on January 1, 2008. 'I am honoured by the opportunity to work with Professor Larkins and the Council on the governance of this extremely successful University. I look forward to participating in the development of strategies that will enable Monash to be highly responsive to the continually changing nature of university funding and to be innovative with respect to educational initiatives and research priorities.'

Alan received his doctorate in Electrical Engineering at Monash University in 1981. After two years of postdoctoral research at the Australian National University he went on to establish and lead Axon Instruments, a world-class supplier of electronic and robotic instruments and software for use in cellular neuroscience, genomics and drug discovery both in the university and pharmaceutical company research sectors.

He recently invented a device that was successfully commercialised to speed drug research, and has also co-founded the award-winning science magazine Cosmos, managed the merger of several prominent research institutes, represented the Academy of Technological Sciences and Engineering in a program to foster appreciation of science in secondary school students, and co-founded a company distributing educational toys and books for children.

From the 70s

John Snare (BE 73, MEngSc 82) began what was to become a long professional career with Telstra in the PMG (now Telstra) Research Labs in 1973. He initially studied techniques for using the existing telephone network to transmit data (a novel idea at the time). It wasn’t long before he moved onto projects concerning techniques for automatically switching data streams and importantly managing traffic in data networks. These were the early days of packet switching based on virtual circuits. John was a pioneer with the X.25 packet switching protocol and worked as one of Telstra’s representatives with the CCITT (now the ITU-T) on the development of the X.25 standard. He also worked on the procurement and implementation of Telstra’s first packet switching network, Austpac. John subsequently worked on the development of ITU standards for Open System Interconnection, the famous (or infamous) OSI standards. In 1985, as a manager in Telstra’s Research Labs, John took an interest in business applications for data services and in particular how information handled in such services could be secured. In 1993 he moved into a range of Telstra ‘head office’ management assignments concerning information security policy and implementation. After leaving Telstra in 2000, he worked as an R&D manager in Adacel Technologies, a software engineering company developing a range of IT security solutions for eCommerce, and more recently worked for Fujitsu Consulting as a specialist information security management consultant. He still does freelance consulting in the area of the management of information security, but is easing into retirement and spending more time cycling, sailing, singing in a local choir, travelling, and attempting to recapture his youth driving his classic MGA.

From the 80s

Rick Alexander (BE 82, PhD 89) worked on the development of a non-contact 3D shape measurement system for his PhD. After leaving Monash in 1990 he joined ANCA in Melbourne working on the development of embedded control software for numerically controlled machines. In 1992 he moved to Invotech (which became part of the Vision Systems group in 1993) and worked on a variety of projects. These projects ranged from an automated visual inspection system, development of computer generated holograms for security coding of products to firmware development for an automated tissue processor. In 1995 Vision Systems bought IEI who then produced the VESDA range of very early warning smoke detectors. He was the team leader for firmware development of the LaserPlus range of early warning smoke detectors, which were first marketed in 1997. From then he has been working on the development of firmware for various fire protection products. He has taken many roles, from hands on coding of signal processing algorithms to system level specification and project management. Currently he is working on both system specification for new systems, general firmware development and also signal processing development. He is married to Marilyn (BE 81 and PhD 87 from Monash Materials Engineering). His hobbies include music and he is part of a guitar vocal duo Zanthii Blue (www.zanthiiblue.com) who play cafes and festivals. They’ve recently released a CD “These Places”. Rick also released a CD of Instrumental guitar music “Innocent Dreams” in 1999.

From the 90s

James Fallon (BE 97, PhD 02) spent a brief time in the Department of Otolaryngology at Melbourne University before moving to Sydney to work at the Prince of Wales Medical Research Institute where he learnt the technique of microneurography, recording from individual nerves in awake human subjects. In 2004 he moved back to Melbourne to begin work at the Bionic Ear Institute, where with funding from the National Institutes of Health in the United States he is a key member of a team mapping changes in the brain occurring as a result of cochlear implant use. Along the way he has continued his ties with the Department, including lecturing in 2006.