

## OCCASIONAL ADDRESS

Delivered to graduates from the Faculty of Engineering  
at the UTS Graduation Ceremony  
Great Hall, City campus, Thursday 28 September 2006, 2.30pm

### **Mr. Keith Daniel BE FTSE FIEAust CPEng**

Director, Optiscan Ltd, Milvella Ltd; Councillor, ATSE

Presiding Chancellor , Presiding Vice Chancellor , Presiding Dean , Staff,  
Distinguished guests, most importantly, graduates; your families and friends.

I would like to acknowledge the Gadigal and Guringai people of the Eora nation on whose ancestral lands this University stands.

I would like to address the parents and families of the graduates first. Take justifiable pride in your children today but also be proud of yourselves. Your efforts in instilling character and values in your children have contributed very significantly to their graduation today.

To the graduates; my fellow engineers; I want to say, congratulations! Welcome to the profession of Engineering! This is your day and I promise to intrude only briefly in it.

Each of you has taken a different path to this watershed in your lives. To those who have had to undertake paid work while studying, I say, particular congratulations. Such a combination of efforts leaves little time to “have a life”. You should feel today that your persistence has been rewarded. This persistence will stand you in good stead whatever you take on in the future.

To those of you for whom English is not your first language again particular congratulations in mastering both your course work and a culture and language that will have initially been quite alien.

To those of you completing post graduate qualifications again congratulations. It is often hard to maintain the energy to “go the extra mile”. Your demonstrated commitment and perseverance should serve you well.

Like others who have stood here before me I would like to think that this is a Commencement Ceremony rather than a Graduation Ceremony. Graduation has a feeling of finality to it and yet today marks only one early step, albeit a major one, in your life and career. You may now “Commence” the next major phase in your life.

A few thoughts as you tackle this next phase.

Some of you may have already planned how your career will progress and some may indeed already be employed or have job offers in this chosen field.

I encourage you to plan your future but also be open to opportunity as it arrives. I say this because, if history is a guide, three quarters of you will have a career completely different from the one you currently foresee and half of your career will be in an area or discipline that does not exist today. Having started life as a new electrical engineering graduate in 1965 and ending up managing a company in the biomedical device industry, a field that was newborn when I graduated, I know that was true for me.

When planning your future think very hard about the challenges you can foresee and your personal values. Make sure that your values and those of the organisation you will work for are congruent. You will never feel fulfilled in your work if they are not.

When addressing your challenges do so with a passion. Give them your best shot and look on events that occur as opportunities – not threats. Remember the University motto -Think, Change, Do. Be excited about what you are doing and communicate your excitement. Your excitement will inspire others to do better and help clear a path for you to succeed.

You will make mistakes; sometimes even fail. Treat them as learning experiences. You learn far more from your mistakes than your successes. Learn - then put them behind you. Those who have never made mistakes have never done anything!

Think also of the challenges that mankind will have to face during your working lives and think how you may contribute to solving rather than exacerbating these challenges. Engineering is a profession of “Doers” rather than bystanders and decisions you make will profoundly affect whether your children inherit a better world or a worse one.

When I graduated there were just greater than 3 Billion people on this finite planet. Today there are over 6 Billion and when you stand up to give an address like this, late in your career in 2045, there will, on current projections, be over 9!

In 1965 overseas telephone calls were booked with an operator and a wait of 2 hours to connect was normal. International travel was mostly by sea as air travel was prohibitively expensive. The world was a series of islands with Australia more isolated than most. Now the world is rushing to integration and corporations are leading the charge. As they gain ever more power they will need to be held accountable to society. To maintain a just balance, corporate social responsibility must be a key element in your agenda.

In 1965 we could, if we chose, rape and pillage the countryside and apparently cause only local damage. Wider impacts were not seen at the time. Today the impacts are increasingly obvious and many of the sins of our past are coming back to haunt us - and you. The most talked about of these is global warming. While the human contribution to this real warming is still vigorously debated there is no doubt it is significant.

In 1965 the carbon dioxide in our atmosphere had increased by 14% over pre-industrial levels. The impact this may have was generally "below the radar". It has now risen by 35% and is heading for 80% by 2045 if we continue on our current trajectory. Today, annual fossil fuel consumption is three times what it was in 1965. The real issue is what it will be in 2045!

My generation, and the two or so before it have unwittingly embarked on a planetary scale experiment where the outcome is far from clear. Recent reports suggest that while the possible temperature increases in 2100 may not be as extreme as estimated from past modelling, existing small temperature changes are having more effect on glacial melt and rainfall patterns than was previously expected. Even if the world stopped burning fossil fuels today, which is, frankly, socially and economically impossible, the atmospheric CO<sub>2</sub> would not return to "normal" levels for 100 years.

Your generation of doers will have to mitigate and repair the damage of past generations and live with the consequences. The challenges you will face are enormous. The answer will not be to retreat to a largely idealised pre-industrial past. The size of the world population will not allow it. The solutions will come from the engineers; your hands and minds, as the large scale "Doers" in society.

As we, the Baby Boomers, "Exit stage left" we leave you lots of challenge. As you increasingly take over the reins you will need all your skill and persistence. Fortunately, I am greatly heartened by the optimism and enthusiasm that you and the rest of generation Y demonstrate. I am confident you will rise to the challenge.

My fellow Engineers, your world will need you and your skills far more than it currently appreciates.

Good Luck and, again, Congratulations on your achievements.

Thank you and thank you Chancellor Sara.