



# DES News

## Department of Engineering Science

April 2012 | Alumni and Friends quarterly newsletter | The Andrew issue

### Dear Alumni and Friends

This is a special newsletter, one that was never supposed to exist for the reason it does, the Andrew issue.

In the weeks before Andrew's term as Head of Department ended, when I began to get involved in more HoD activities as his 'apprentice', Andrew once said that there will always be some unexpected personal problems of staff or students like someone suddenly becoming ill (the memories of Andy's troubles were still fresh). Andrew thought I would definitely need the box of tissues and the magic wand in the HoD office. When he told me that he had been diagnosed with cancer that's what I had to think of. And yet there was nothing that could be done with tissues and magic wands. Andrew was of course immediately ready to take up a fight and was convinced he'd recover completely. This fight he did not win, so we are preparing this issue of the newsletter to remember Andrew, celebrate his life and contributions to the department and share memories among alumni and friends.

Professor Matthias Ehrgott, Head of Department  
[hod\\_des@auckland.ac.nz](mailto:hod_des@auckland.ac.nz)

### Professor David Ryan

The eulogies at Andrew's funeral were wonderful tributes to a very special man who achieved much in everything he undertook. He touched the lives of so many people and each of us will always remember our own special times with him. In this contribution to the Engineering Science Newsletter dedicated to Andrew's memory, I would like to share three of my special memories.

In 1989, I was planning to spend a semester on sabbatical leave at Cornell University and discovered that Andrew also planned a short visit to colleagues at Cornell. Friends had arranged an apartment on campus for my stay and I suggested to Andrew that he stay with me while he was in Ithaca. Our travel plans didn't really coincide but we decided to meet up at Mike Saunders' house in Palo Alto. From there, Mike took us both to San Francisco airport where we each caught "red eye" overnight flights to New York. Neither of us had slept much on our flights so we decided to share the driving to Ithaca with the understanding that we would keep each other awake on the trip. I decided to stop briefly for a cup of coffee with friends, who lived on our way. Despite his well known dislike for coffee, Andrew did not protest (too much) when I told him it would help me stay awake. Unfortunately my friends were not at home but as we were heading back to the freeway, I spotted a Dunkin Donuts store and without saying anything to Andrew, I pulled into the car park.

I will never forget the look on Andrew's face when we entered the store and he saw the 'wall to wall' donuts on display. I ordered a selection of a dozen (to get the 13th free) including a good number of my favourite, Boston Crèmes. With my coffee, a coke for Andrew and the donuts to share, we got back to the car and quickly devoured all 13 donuts. Andrew was easily converted, especially to Boston Crèmes. It will surprise no one who knew Andrew to hear

that he insisted on returning to the store to get another 13 Boston Crèmes to take with us to Ithaca "for supper"! We did make it safely to Ithaca and each evening while Andrew was staying with me, we walked down from the campus to the Dunkin Donuts shop in town for our nightly dose.

During my term as Head of Department, Andrew was a most loyal and helpful colleague who progressed rapidly through the academic ranks. Nothing was too much for him and his contribution was always much more than could reasonably be expected. During our Annual Performance Review meetings, I used to enjoy teasing him that when I retired he would be Head of Department. When ultimately he was appointed as HOD, he took great delight in reminding me of my prediction and asking when I was going to retire!



Ruth and I introduced Andrew to skiing and we sponsored Andrew, Patti, Zeke and Xanthe into Te Horonuku Mountain Sports Club. The Lodge at Whakapapa on Mt Ruapehu became a special place for the family and Andrew quickly became well known at the lodge for his dress of T-shirt, shorts and sport shoes, but also for his enthusiasm for skiing and club life. As an adult beginner with fitness and strength, he developed a unique skiing style which in the early days could best be described as a "kamikaze flying wedge" – ski tips together, heels apart with poles out to the side and leaning back to get his skis onto their inside edges. Speed was no problem for Andrew and he showed no fear but it was always wise to ski behind rather than in front of him! It was with some concern that we watched Zeke introduced to skiing by being suspended between Andrew's skis on the beginners Pinnacles Plater lift. Fortunately Zeke survived the experience and quickly developed his own more professional style that left Andrew behind! Along with all his other commitments, Andrew joined the THMSC Committee and eventually was elected as President of our Club. He stepped down as President only after his diagnosis last year, and his contribution to the Club was recognised by many of our members who attended his memorial service at the MacLaurin Chapel.

Now as we remember Andrew in this special issue of the DES Newsletter (which he began during his term as HoD), it is important that Patti, Zeke and Xanthe know that the love and support of our DES family is always going to be there for them. Many people have contributed to the Pullan Family Trust since it was established last year and I know Andrew really appreciated the generosity of so many. As a Trustee, I would like to remind everyone of the Trust and its purpose now to provide support for Patti, Zeke and Xanthe – further contributions would be most welcome ("Pullan Family Trust" ASB a/c 12-3427-0264252-50).

Let me finish by saying simply that Andrew will always have a special place in my heart and the memories of our times together will always be with me.

Photo, 4 DES HoDs (not concurrently). Left to right, top to bottom: Mike O'Sullivan, Andrew Pullan, David Ryan, Matthias Ehrgott

## Support crew

### Associate Professor Rosalind Archer

In the last months of his life Andrew asked that only a small number of people visit him at home - his energy was precious and needed to be conserved. I was privileged to be part of that group since there were so many people that mattered to Andrew. Those of you who know me will know that I have a habit of listening more than I speak. I've been around others on their own journeys with advanced cancers in the last few years. Andrew also knew that I understand pain well. I've had 4 operations in the 21 years I've known Andrew ... and every time he was "in my corner" wanting to know that things had gone well and that I was bouncing back to full health. Those factors meant that Andrew and I could have some "difficult conversations" over the past months.

So my last story about Andrew is to remind you all that even though you may not have seen or spoken to Andrew in some time, he was very conscious that he had a big "support crew" out there. Andrew knows that support crew will continue to look out for his family. I know that bought him the peace he needed to find.



Top: Andrew speaking at the 40th Anniversary dinner. Upper middle, left to right: BBQ with Peter Hunter, Mike O'Sullivan and others, PhD graduation day with parents, Graduation procession, With Rita Yassi (to Andrew's left) and others at graduation; Lower middle, left to right: at cricket, tower climb and triathlon events; Bottom: with super computer

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Note, the first four eulogies are those presented at Andrew's funeral, and are shown here in the same order.

## News in brief...

### Bier recognised for teaching

Our congratulations to our Senior Tutor Peter, joint winner of the UoA 'Early Career Excellence in Teaching' award, along with Dr Nicholas Rowe from the Dance Studies Programme.

Peter is also one of three staff nominated by our university for the 2012 National Tertiary Teaching Excellence Awards.

### Ehrgott and Wang

Matthias Ehrgott and Judith Wang married in Coromandel, on Saturday March 17th.

### Peng Du wins VCs prize

Peng Du has won one of the Vice-Chancellor's Prizes for Best Doctoral Thesis. Only five prizes are awarded each year across the university, and this year two of the winners are from Engineering - the other Engineering winner is Jie Han from the Department of Chemical and Materials Engineering. Peng was supervised by Andrew Pullan.

### Leyland elected IPENZ Fellow

Maury Leyland has been elected a Fellow of IPENZ "for her contribution to leadership in the profession of engineering."

## Eulogy: Ron Paterson Professor, Faculty of Law

Fakalofa lahi atu. Nga mihi mahana, ki a koutu katoa.  
Warm greetings to you all.

Andrew was my friend. We met around 1990, after he joined the Department of Engineering Science as a lecturer, when his colleague Andy Philpott asked Andrew to come for a run with us. So began a wonderful friendship.

I've been asked to do two things today: provide a sketch of Andrew's life – his colleague Mike O'Sullivan and family will fill in some of the details – and tell you a wee bit about my friend.

Andrew was one of a kind. All of us who knew him were struck by his boundless enthusiasm and energy, the high standards he set himself, in work and fitness, his devotion to Patti and joy in Zeke and Xanthe, and his pride in their lovely home in Epsom (which managed to withstand his excessive basement excavations).

Andrew grew up in the family home in Massey Road, Mangere. He was the second of six children in a very close family. Andrew went to Robertson Road Primary School and Mangere Intermediate, and to high school at Aorere College, where he cemented a family tradition of finishing as Dux. It was at Aorere College that Andrew met the love of his life, Patti.

Andrew was always very proud of his South Auckland roots. When he discovered that there was no cup for Dux at Aorere College, he immediately sought to remedy the situation, and Patti was dispatched to find a very large cup, the Pullan Cup for Dux, which Andrew himself took pride in awarding each year. Andrew would be touched by the presence here today of Aorere College staff and students.

Andrew excelled at University, living in a small caravan in the family's backyard. I asked him a few months ago, "Did you really get all A+s in your Maths degree?" His face lit up, "Yes", he said, and proceeded to give me all the details. Andrew fulfilled his early promise with rapid promotion to Professor and his pioneering work in biomedical engineering. He was fascinated with the human body and loved thinking about anatomy and physiology. And he loved to push his own body to the limit, in runs, on his bike, and in the gym – at Les Mills and later in his basement. Andrew did nothing by halves.

Andrew was a stickler for detail. He was also a man of firm and sometimes quirky views. He seldom saw shades of grey. He loved to bait me, on the subject of lawyers, but actually on any topic. I found him very funny. He would always come out with an unpredictable comment. He was the first visitor to our seaside home at Kawakawa Bay. He walked up the driveway (with Patti overdue with Zeke, who arrived 5 days later), and said: "Ron, Ron, Ron, what have you done? You can't even look after a tiny section in Devonport. You'll never manage this!"

Andrew and Patti loved to come out to Kawakawa Bay. Sometimes Andrew would bike the 62km from the city. Often he would phone ahead with his food orders. My partner Greg is a great cook, and Andrew loved his food. "Tell Greg I'd like that onion tart and the lemon dessert", he would say. Only Andrew could do this and make you want to oblige. He and Greg went to Nepal for nearly 3 weeks in March last year. They had a wonderful time. When they got back, Andrew said to me, "I could never travel with you. But Greg was a great travelling companion!"

Andrew was a perfectionist. He could get very frustrated when he felt things weren't being done properly, like the University's webpage. He would phone me up on a Saturday morning and regale me with the latest obstacle to be

overcome. I tried to coach him, and in his years as Head of Department he began to develop some patience – but he never quite learnt not to press "reply all" on his emails!

Many of Andrew's former students are here today. He loved to inspire you with his ideas and excite you with his enthusiasm. I'm told that summer or winter, he would always lecture in his shorts. Andrew was never one for unnecessary formality. When he was appointed as Vice-Chancellor's representative on the Auckland Grammar School board, he loved turning up in his shorts to meet with all the suited QCs and businessmen.

Andrew packed so much into his 48 years. He travelled all over the world to conferences, and planned elaborate trips when Patti and the kids would accompany him, as you will have seen from the slideshow. In truth, Andrew found flying a bit of a hassle, but he knew the importance of research collaborations, and he wanted to show his family the world. He was never happier than when he was home at 32 Maungawhau Road, or down at the mountain skiing with Zeke, or watching Zeke's rowing regattas, or at a school event for Xanthe. Family always came first for Andrew.

Andrew was a University man through and through. It is fitting that he is farewelled today at the Maclaurin Chapel, at the heart of this University that he loved so much. Andrew turned to his network of University colleagues to help find the best treatment, and he was proud to be "NZ1", the first New Zealander to receive the new Braf inhibitor, which gave him an extra 6 months, thanks to his good friend Julie Maxton and her Oxford connections. His GP Brent Maxwell from Student Health has cared for Andrew throughout his illness. It was Andrew's departmental colleagues – Rosalind Archer, Dave Ryan, Mike O'Sullivan and Andy Philpott – who set up the trust to raise money for Andrew and Patti and family. He was so grateful for everyone's help, and got a real kick out of the student bake-off to raise funds for the Pullan Trust.

Andrew and Patti wanted me to thank you all for the support that has meant so much to them both over the past 9 months. Andrew has had a very hard road to walk, but his determination, humanity, integrity, and great interest in others stayed with him to the end.

Andrew, your spirited energy and zest for life will continue to inspire us all. Thank you for the joy you've brought to our lives.

Thank you for being such a wonderful friend.

God Bless you mate.

Photo, left to right:  
Andrew Pullan, Andy Philpott, Ron Paterson, Lake Pupuke Triathlon



## Eulogy by Mike O'Sullivan

### Professor, Department of Engineering Science

Andrew Pullan joined the Department of Engineering Science in the early 1980s when he came over the road from Mathematics to do a PhD with Ian Collins on mathematical modeling of unsaturated groundwater. He completed his PhD in late 1987 and then tried a brief spell in the corporate world with Winstones (wearing a nice suit instead of shorts). Andrew missed the intellectual challenge of academic life and after a year or two returned again to Engineering Science. He quickly developed a research interest in mathematical modelling of the human gut and made excellent progress. His research achievements were recognized within the University by rapid promotion to a professorship. He also received many external awards and large research grants enabling him to set up a strong research team in the Auckland Bioengineering Institute and he established a large network of international collaborators. Perhaps the most notable of his awards were his James Cook Fellowship and his FRSNZ. I expected him to become the second FRS from Engineering Science.

As well as being a brilliant researcher Andrew was great teacher. He was interesting, inspirational and funny. He was always rated very highly by the students and he was a delight for any HOD to deal with. He could teach any subject, he could entertain and inspire classes of 250-300 engineers in MM1 or MM2 and he could challenge and excite small classes of 15-20 in final year Engineering Science electives. He never complained about his teaching load and his teaching was always superbly well organized

Andrew was an excellent research supervisor over the whole range from Year 4 projects through to PhDs. He was demanding, but very helpful and it is not surprising that he assembled a large and very effective research team

Andrew was a very loyal servant of the Department. During my time as HOD I knew I could ask him to carry out any service task and he would do an excellent job, on time and without complaint.

However he was not a perfect human being: he did not like coffee, beer or red wine. As part of his campaign to avoid becoming HOD he threatened that if appointed HOD he would remove the departmental coffee machine. Fortunately his campaign failed and he was HOD from 2007 to 2010 (the coffee machine stayed). All the KPIs for the Department improved during Andrew's watch: we published more papers, raised more money, recruited more students etc, etc and we were happy. He was a very effective but friendly and compassionate leader.

His organization of our 40th Anniversary celebrations, together with the publication of a history of the Department, was excellent. His establishment of the "Next Top Engineering Scientist" problem solving competition for high school kids was a great idea and continues on very successfully.

Engineering Science has always been a very sociable department. Our tramping trips have been highlights, with day trips down the Pararaha Valley and longer trips around Lake Waikaremoana and over the Milford Track. Andrew was always a leader in these events and he was great company. He was so fit that he could talk the whole way while some of the rest of us were struggling for breath. And he was a great camp cook.

Andrew lived life at about 150% of the rate of most human being. He was full of ideas, full of energy, full of enthusiasm. He put enormous effort into everything he did. Research,

teaching, administration, gym work, skiing, home renovations, serving on school boards, looking after his family – he did all of them exceptionally well.

I remember well one small example from the early 1990s of his approach to life. Andrew and I were the two staff members who accompanied a student field trip down to Wairakei and Taupo. One evening we took the students to the AC baths and Andrew organized a friendly game of water polo. Naturally he wanted his team to win and he nearly drowned two students making sure it happened

Andrew died at age 48, just 23 years after gaining his PhD. I figure he was only about halfway through his academic career. He had already achieved great academic success but there was much more to come. We should celebrate a wonderful life lived very fully but I find it impossible not to grieve for what might have been. He will be greatly missed by the Department of Engineering Science and the Auckland Bioengineering Institute but he will be very fondly remembered.

At my age one occasionally thinks of death and dying. In my day dreams on the topic I assemble a group of family and friends that will support me at the end. Andrew Pullan is always near the front rank of this group and I had imagined that he would be one of the people saying nice things at my funeral. Sadly this cannot happen now. I will greatly miss him.



Left to right: Andrew Pullan, David Bullivant, Mike O'Sullivan

### From David Bullivant

#### PhD Class of 1988 (Andrew's 'cohort')

Mid-afternoon, most weekdays from the mid-80s to the mid-90s, Andrew and I would head off in search of chocolate. It moved around a bit, but there was always somewhere on campus that sold chocolate. We took turns. One would choose two "thick and chunky" bars, the other would buy and divide, and the first would choose. Because there were 7 segments in each bar, there was a bit of uncertainty/competition over what you'd get.

This was a great time to discuss problems, come up with proposals and set the world to rights. We kept it up on a much less regular basis (a few times a year) until the middle of last year.

Thank you Andrew, for this and much more. May you be happy and peaceful.



2010 Part IV Project photo, students with staff.

## From DES staff

### **Poul Nielsen, Andrew Taberner, Martyn Nash**

Andrew was a close colleague and friend to many of us. It is particularly difficult for those who knew him well to have lost him at such an early stage of his life. But rather than dwell on this loss, it is more fitting that we celebrate what his life has brought to us.

Andrew was a bright, enthusiastic, practical person who never seemed to shy away from a challenge. These qualities are evident in the significant successes of his research and administrative lives. He was a founding member of the Auckland Bioengineering Institute (ABI) and a prime mover for the establishment of the Biomedical Engineering specialisation of the BE degree. Both of these have had a significant impact on the University, its researchers, and students.

Andrew's contributions to research within the ABI have been immense. He established and grew significant research groups focussing on cardiac and digestive electromechanics. In both fields he made world-leading advances, particularly involving methods to solve inverse problems related to these areas. His contributions will serve as a lasting testament to his abilities to lead a highly productive research team, and to produce and manage outputs from large-scale science.

Andrew was principled and tenacious - unwilling to allow issues that excited his passion to pass without being addressed. He put enormous energy into, for instance, the 40th anniversary of the Department of Engineering Science and the University's web site upgrade. This passion was an undoubted catalyst for getting things done. He was also passionate and concerned about the welfare of his friends and colleagues. Andrew was open and approachable, willing to spend time to address issues that troubled those who he was responsible for.

We are deeply saddened by the loss of Andrew, but celebrate his legacy of success and accomplishment. All of us, his colleagues and friends, have been enriched by knowing and working alongside Andrew.

### **Don Nield**

Andrew's transfer from Mathematics student to TAM student more or less coincided with my transfer from Mathematics staff member to TAM staff member. From the beginning it was apparent to me that Andrew was distinguished. The external examiner of his PhD thesis was the Australian hydrologist John Philip, FRS, who reported that Andrew's work was distinctly novel. There were expressions of surprise from some Mathematics Department people when Andrew was appointed to a lectureship in TAM without any overseas experience, but they were quickly silenced!

Physically Andrew drove himself to the limit, and there was a period in which he seemed to be accident prone biomechanically – an ankle broken tramping in the Pararaha, an Achilles tendon torn while playing squash, and an injury when he became entangled with his bike – but that did not dent his cheerfulness.

### **Jim Greenslade**

At my first department meeting (more than 20 years ago) I first heard a young Andrew Pullan express genuine concern about the dubious commitment of some of our PhD students. He had observed that some of them didn't seem to be totally focused on their work while in the Graduate Room (unlike today's students, of course!) He told us that students needed to be "driven" in order to be successful. As a newbie it took me some time to understand where Andrew was coming from and what 'driven-ness' might look like.

More recently I interacted a lot with Andrew during his time as HOD, particularly through our Faculty IT restructuring and the establishment of the NZ's Next Top Engineering Scientist Competition. By that time his standards and expectations of others had not diminished but his skill at engaging and encouraging students and colleagues was well developed and was undoubtedly a key to his success in that role.

I still don't completely understand 'driven-ness' but Andrew certainly left a lasting example of getting the best from oneself and from others.

### **Nicola Kovacevich**

I first came to know Andrew as he was gearing up to become Head of Department. For a man who swore he did not want the position, he put a great deal of effort into finding out what went on in the department prior to commencing the job.

Writing this now, I realise Andrew was a bit like the Tardis. His ability to squeeze everything in was incomprehensible. Andrew's basement development, the TAM to DES book, Zeke's rowing practice, and many other things seemed to just fit into an already full work workload. He reminded us we were a family, with lives that went beyond just work. Whenever Andrew had something to celebrate, he had his Patti, Zeke and Xanthe there with him. He made sure DES celebrated milestones such as the department's 40th, and Ian and Mike's 'triple 70th', and he made our Christmas lunch a party for our families, complete with Santa and gifts for our children.

Working with him was a joy and a challenge. Andrew took care of us, both as DES and as individuals, and pushed us to extend ourselves. He was willing to fight for what was right and best for our department and our university - right up to Senate - and enriched us with his vision, his ideas, and his energy.

## Andrew Mason

I first met Andrew when he was a PhD student and I was in the final year of my BE. While I'm sure Andrew was working hard most of the time, these early memories include Andrew playing games on the department Macintosh computers – something that I'm sure none of his PhD students have ever dared do! A few years later, our department tramped the Milford Track, and I can remember how Andrew and I egged ourselves on to take a very cold river plunge, hand-in-hand to ensure neither of us chickened out.

My more recent memories include Andrew going out of his way to help make my family feel so welcome in the department. He always had time to stop, talk and laugh with my children, earning Andrew my son's biggest compliment of "a very funny man". Adding a family Christmas event to the EngSci calendar was another way of showing how much Andrew valued the wider EngSci community. I cannot imagine how many hours were spent by Andrew and Patti shopping, wrapping and labelling all the Christmas presents we received. The gifts and memories from these events are still treasured today. We may have lost Andrew, but his life remains as a model of all that's best in a friend, colleague, and family man.

## Kim Williams

1. I house sat for Andrew and Patti. The first time I ever did, I locked myself out of his house. I was on his balcony in my pj's, it was 8pm in the middle of winter and raining hard. Andrew and family were skiing. Embarrassingly I phoned Andrew. The first thing Andrew said to me was "Kim, Kim, Kim," then Andrew said "Is the stove on". Getting the spare key was a mission but thankfully there was a spare key.

2. Andrew and I were chatting in his HoD office on a summers day when we both looked out his window, down onto the balcony. There were two students, laying down, getting very amorous with each other. I said to Andrew, "That's our Part II student". Andrew replied, "I know her parents". We both laughed so much.

3. The bell at reception was Andrews favourite. He loved standing there and constantly ringing it. I used to tell Andrew that one day I would throw it at him. I ended up having to hide the bell from Andrew.

4. On the rare occasions that Andrew wore a suit into the office, you knew that he had an important meeting that day.

## Michael O'Sullivan Jnr

My first lasting memory of Andrew Pullan was as follows: There were two men in Engineering Science, who every time I saw them, were together and wearing white polo shirts and short shorts. I think one wore red shorts and had bare feet, the other blue shorts and jandals. Mr Red was David Bullivant and Mr Blue was Andrew. Over the years Andrew's shorts got longer and he moved to white sneakers, but the first time I saw him at work with long pants on he had just started as HoD.

## Richard Clarke

The Pullan family came over to stay at mine on Waiheke over New Years 2008. Andrew had brought a huge box of fireworks with him, to set off on New Years eve.

He found there isn't much flat land on my property. Not one to be easily dissuaded, however, Andrew decided to secretly plant them in the embankment opposite, ready to be lit up on New Years. They did make for a spectacular sight when set off. Unfortunately, it wasn't an embankment but the back boundary of my neighbour's property, which was subsequently bombarded for 10mins straight with every flavour of pyrotechnics.

## Matthias Ehrgott

Andrew's HoD test:

Some time in 2010 Shobha distributed an email requesting some information for some event, that I cannot recall anymore now. It was one of these numerous occasions when someone asks for input, assuming everyone knows what they're about. That got me a bit annoyed, so I responded to Shobha, copying to Andrew, that if these people are not even willing to tell us who they are and what they're doing they do not deserve an answer. Later that day I met Shobha who told me that Andrew's reaction to the email was "I think Matthias is ready to be HoD".

One of Andrew's first job assignments when he became HoD was to make me department correspondent for the newsletter of the New Zealand Mathematical Society. In my first column I thanked Andrew for this new job like this: "Andrew Pullan has taken the reins as new Head of Department since February. Contrary to persistent rumours no new dress code has been issued and even Andrew is sometimes seen with long trousers."

## Judith Wang

I remember very well the last words from Andrew to me. It happened not long after Matthias became the Head of Department. One day I was standing outside Matthias' office while someone was talking to him inside his office. Andrew came out from his office and said to me, "Hey Judith, now you'll have to join the queue or make an appointment to see Matthias like all the others..."

Editors note: Matthias and Judith were together at the time of the story above, and have since married.



2010 Christmas party - Andrew, Santa, Daisy and Benjamin Mason

## Margot Gerritsen, Stanford University

As the two "blondies" in the department, Andrew and I often teased each other with our latest blonde jokes. Well, he started, and I retaliated with similar ammunition. I think I had the last laugh when I told him finally that I really was just a light brunette with artificial blond streaks. In his case, however, the blonde was genuine....

But, our friendship also included bikerides, runs, tirades against bureaucracy, shorts that we both wore to work, collaborations on teaching, and my attempts to get him to come out for a real drink.

Andrew made my 5 years in ESci more entertaining and more welcoming. When I moved away, I missed him as a colleague. I'm terribly sad he's no longer around.

## From Andrew's PhD supervisor Ian Collins (Professor, DES, 1981-2010)

I first met Andrew, as a "fresh faced youth", when he came to my HOD office in the mid 1980's. He explained he had just completed a BSc degree in mathematics, and had done rather well (a straight A+ record actually). He was wanting to use his mathematics abilities to solve "important" problems, and had just learned of the existence of the TAM department. He talked to all members of the department about their research. He ended up opting to do a PhD with me, working on a problem of unsaturated flow of water in soils. This problem came to me from the Maths group of the DSIR. It was somewhat removed from my main areas of research and it did mean that Andrew had to get help from others, in and outside the department. I felt guilty about this at the time, but in retrospect it probably helped to give him confidence in working in research groups with diverse interests.

He completed his PhD in 1988, and Patti and he got married. Their honeymoon took them to Europe, and they stayed several days with me, my wife and daughter Helen, as we were on Sabbatical leave in Cambridge. We had a flat in Clare Hall College. I remember Andrew saying the mattress on the floor that we provided for them was a luxury compared with some of their earlier sleeping arrangements. As well as showing them around Cambridge we took them to Audley End, a 17th century mansion, as a good example of "British feudal decadence."

Andrew spent a short period working in industry, but he then decided to investigate the possibilities of an academic career, and I remember spending an evening at my house discussing this with him and Patti. We did actually have a vacancy in the department, which was a rarity at that time. I remember talking over the possibility of appointing Andrew with my two senior colleagues Mike O Sullivan and David Ryan. They both gave me very impatient looks - indicating that we should snap him up before someone else does! He and I shared a mathematical modeling course for a couple of years - he was particularly effective with the large classes.

I spent the next 10 years as an Associate Dean, and I lost touch with the Department and Andrew's activities, though he was clearly doing extremely well, as evidenced by the award of a James Cook Fellowship and his election as a Fellow of the Royal Society of New Zealand. My contact with him was only renewed when, one day, he 'bounced' into my office saying: "Good morning Ian - I am now your boss!!!"

I think we were all very much impressed by the energy he immediately demonstrated, eg the compilation of a history of the TAM/DES department, and the organization of a number of social events such as the 40th anniversary dinner. But also he took a very strong personal interest in the welfare of individual students.

His loss, as well as being devastating for his family, is also a loss of a huge talent for academic leadership. Andrew had a spectacular career at the top of New Zealand's academia ahead of him. It was a privilege to have known him.



Left: Andrew and Patti in Oxford in 1988 with Ian Collins' wife and daughter.

## From others James Sneyd, Department of Mathematics

Andrew loved to cycle and he was good at it. I have a colleague, Jim Keener, who also loves to cycle and is good at it. Or so he thought.

A few years ago, Jim Keener came to New Zealand for a conference on Waiheke, that Andrew was also attending. One afternoon, he and Andrew went for a cycle ride around Waiheke. I was an interested overhearer (is that even a proper word) of the preliminary conversation, which I present here slightly paraphrased:

Andrew: You ready?

Jim: Yep. Let's go.

Andrew: You really want to go all afternoon?

Jim: Yep. Why not?

Andrew: Well, it's pretty hilly around here.

Jim: Hey, no problem. I can handle hills. I'm good at hills. I like hills.

Andrew: Well.... OK.

Some time later, Jim Keener arrived back, in the back of a truck. Andrew cycled in, quite happily, a bit after him.

"Oh", said Jim to me, when I laughed. "I had no idea what Andrew meant by hills. It's not the going up that's the problem, it's the going up then down then up then down then up then down...."

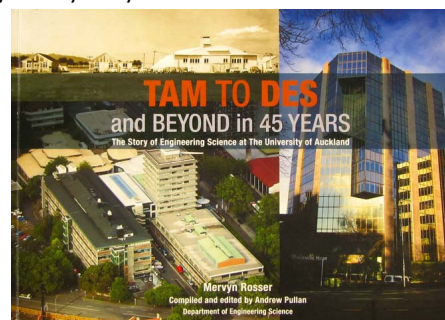
Andrew didn't even notice the hills, or so he claimed.

## Jill Segedin, Founder of DES' daughter

I knew of Andrew as a member of my sister Rosemary's cohort when she did her PhD in Engineering Science. I re-met him at the beginning of 2008 when cycling with mutual friends and we got to talking about DES and the Segedin connection, my father being Professor Cecil Segedin. At the time he was just starting to plan the anniversary celebrations and I offered my services as a graphic designer. I thought I would be helping out with the invitations or something similar to find, not long down the track, that I was designing a 120-page commemorative book. Andrew and I worked very closely together on this project and it was great fun digging through old photos and memorabilia. As the project grew we went from referring to it as the booklet, to the book and then to the 'beast'! And through this we became firm friends.

Andrew had the foresight to then get me involved with tutoring the Part 4 students, helping them with their Engineering Poster design. This has become a regular gig and I greatly enjoy this contact with the department and the students. I will sorely miss his animated introduction at the beginning of each tutorial.

It was clear that the Segedin connection was very important to Andrew. I know that my father would be touched by this. I am certain that Cecil would have been extremely proud of how the department has developed and Andrew's invaluable role in this. Andrew's enthusiasm and vision will be greatly missed by everybody he touched.



Right: TAM to DES history book

## From former students

### Karen Willcox, Class of 1993

I still remember clearly the first time I met Andrew, 21 years ago in February 1991. We were a fresh-faced batch of new EngSci students; Andrew must have been a fresh-faced addition to the faculty, although he seemed very confident and mature (not to mention old!). I remember clearly some of his first words to our class: "I'm Andrew. I don't respond to Professor Pullan. I don't respond to Dr. Pullan. Just call me Andrew." This is just the way Andrew was, never putting himself above others.

Through my undergraduate career, Andrew was a wonderful lecturer, a supportive 4th-year project supervisor, and an inspiring mentor. This mentorship persisted well beyond my time as an undergraduate in EngSci and set me upon a career path that I could never have achieved alone. In 2008, I was fortunate to spend my sabbatical year back in EngSci and connect closely with Andrew, still as a mentor, but now also as a colleague and as a friend. During this time I really began to appreciate Andrew's commitment and values. Professionally, an intense unselfish commitment to the department and especially to the students. And personally, an incredible commitment to and pride in his family.

When I found myself unexpectedly expecting an addition to the EngSci family, Andrew became one of my closest confidants. One minute he was in my office explaining the biomechanical implications of childbirth on long-distance runners, the next he was sharing with me insights as to how children irrevocably change one's life. Andrew is an example of leadership, of principles and of commitment. He has been an inspiration to many. He has been an inspiration to me.

### Rosalind Archer, Class of 1993

When I was an undergraduate student, Andrew was one of the staff who participated in our class field trip. One of his fondest memories of that trip is a story that he's shared many times - with people who now know me as an Associate Professor.

During my year's field trip I was in a small group responsible for dessert one night. Andrew came to chat to us and heard that we were planning something easy and unambitious - like fruit and ice-cream. Andrew wasn't known for tackling things that were easy or lacking ambition, and didn't encourage others to do the same - so he suggested we do something a little more challenging. As the only female in the group assigned dessert duties the challenge landed on my shoulders. Thinking on my feet I told him we'd make apple pie (to feed 30 or so people!). "With homemade pastry?" Andrew asked cheekily. I assured him the pastry would be homemade and proceeded to organise the males in my group to combine flour and butter etc. in the required proportions and then roll out pastry for a few large apple pies with improvised rolling pins in the basic backpacker kitchen. I didn't have a recipe handy so I was winging it (this story takes place well before the age of smart phones!) but as I recall the pastry was surprisingly good. Large quantities of apples were also peeled and chopped. My dessert team had realised there was another team assigned clean-up duties. So one of our team members (whose identity I will protect) took that to heart and strolled round the kitchen while peeling apples and left a sea of apple peel in his wake.

Everyone enjoyed a sweet treat to finish the day and those that had baked the apple pies were suitably impressed at what some teamwork and ingenuity made possible. That challenge was of course only one of many that Andrew has thrown me over the years. He had a knack of knowing when

someone could do better or extend themselves. As an academic supervising students and managing a department that trait was valuable since ensured that those that worked with Andrew were better for having done so.

### Angela Buckland and Tessa Paris, Class of 2010

In our final year in the Dept of Engineering Science, we ran the 2nd annual Engsci/Biomed Bake-off. This was a baking competition where students from each year group brought in baking with a 'maths' theme and had it judged by a panel of lecturers. Naturally, due to Andrew Pullan's love of all things sweet, he was one of the three judges. We're not entirely sure how he managed it, but he ate a large piece of every cake/slice/biscuit that was offered to him, just so he could properly judge them. Andrew's favourite was a rich chocolate cake with chocolate icing - anything with chocolate was a hit with him. Anytime we bake chocolate cakes now, we think of you, Andrew...

### Julie Falkner (PhD Class of 1988)

The Department of Theoretical and Applied Mechanics, as it was back then, was a livelier place with Andrew's ever-cheerful presence. He was dedicated to his research but somehow could always find the time to tell an amusing anecdote, to bake one of us a birthday cake, or to enjoy the sunshine in the Domain. He played an important role in my transfer from an MPhil to a PhD (after taking that route himself), and later we proofread each other's theses. Life as a graduate student was sometimes stressful, but Andrew's friendship—and his oft-heard laughter!—helped me to make it through those years. Andrew, you lived life to the full and we will never forget you.

### Rita Yassi

The first time I saw Andrew was during an MM2 lecture in 1999. Immediately I wanted him to be my supervisor. His enthusiasm and energy was absolutely infectious. I loved how he taught, how he had the ability to explain complex things in simple ways that were easy to understand. The best part was when I went to ask him questions, he never ever made me feel inferior or stupid. I always respected that about him. Even though he had a brilliant mind, his weakness was remembering peoples' names. It took him three years to remember my name! his excuse was "there was always the four of you girls who go to tutorials and sit together, and you all look the same".. needless to say we looked nothing alike. I had Andrew as a supervisor for my 4th year project, masters and PhD, and then as a boss for 3 years. He was a fantastic supervisor. Always looking after his students, even though he was away travelling with his family for most of the time, but somehow he made sure someone was around to look after us. And when we went to conferences with him, he treated us like family.

When an email came around to ask for stories, I didn't know where to start from!!! I have known Andrew for over 10 years!!!! he helped me grow from a little girl to a woman, from a young student to a professional employee. He taught me so much that I can't compress it in a single page. He taught me how to think, how to solve problems, how to be detailed, how to be passionate about what I do. I owe him so much that words just simply cannot express. The only thing I can do is make sure I keep his legacy alive in me.

I have created a facebook page in honor of Andrew <https://www.facebook.com/ProfAndrewPullan> for people who want to contribute to it with photos and stories.. :) Andrew... I will miss you greatly....until we meet again :)

"Eternal rest, grant unto them O Lord and let perpetual light shine upon them"



## From Andrew's gastrointestinal colleagues

### The Gastrointestinal Research Group, Auckland Bioengineering Institute

We have known Andrew in a number of capacities – as lecturer, 4th year project supervisor, PhD advisor, mentor, colleague and close friend. We have all admired Andrew's ability to inspire, lead and establish our group as one of the world's leading centres in gastrointestinal research.

We will fondly remember Andrew and his various adventures including: running the sky tower challenge determined to (successfully) get the fastest time by anybody in the department (and using his prize money to buy everybody Easter eggs), falling off his bike in his driveway and slicing his leg open, then driving himself to accident and emergency; moving house all day (including his overly large collection of bricks) and almost collapsing from exhaustion later that evening; his DIY excavations

under the house resulting in a race against collapsing foundations. One of our greatest adventures was an all-day walking tour of Washington DC taking in more sights than typically possible – it was getting late and Andrew decided to take a short-cut passing through Roosevelt Island National Memorial. Of course, once on the island we realised there was actually no other way off. It was one of the few times I saw Andrew drop his head and almost admit defeat. However, after a few minutes rest, he somehow motivated us back onto our feet and we continued our (extended) journey back to the hotel.

As a group, we hope to continue the research that Andrew helped to establish and achieve a small fraction of what he managed in his short career.



Photo taken at a GI meeting in Auckland last November which Andrew was unable to attend. Most of the GI group are present as well as a number of close collaborators from NZ and overseas. The people in the GI group present are Gregory O'Grady, Timothy Angeli, Rachel Lees-Green, Leo Cheng, Simon Bull, Nirranchan Paskaranandavadiel.

### Juliana Kim (Andrew's team)

A few years ago, Andrew and team members sometimes drove down to Hamilton for a project meeting. One day on the way back to Auckland Andrew suggested that we should drop by an ice cream shop in Pokeno. He said Pokeno ice creams were very nice and popular. We pulled in and had 'big' ice cream with particular flavors chosen. It was indeed fabulous after a long meeting. - Not only because of ice cream itself!

### Mike O'Sullivan Snr (DES staff member)

Andrew was an excellent research supervisor over the whole range from Year 4 projects through to PhDs. He was demanding, but very helpful and it is not surprising that he assembled a large and very effective research team.

I particularly liked his training regime for postgraduate students. I think he learnt it from Peter Hunter and it is based loosely on the Red Guard political re-education process. It involved all students undergoing a period of manual labour at some time during their research project – either painting Andrew's house, digging out his basement, helping with home renovation or general landscaping.

It seems to have worked – the mental and physical stamina developed at the end of a paint brush or a shovel resulted in an impressive research output from Andrew's students.



Various renovation projects



## Peng Du (Andrew's team)

During his academic career, Andrew was best known as Professor Pullan. However, what exactly is a professor? I consulted the dictionary and picked three definitions that I feel best encapsulate the meanings of Andrew's title.

A teacher of the highest academic rank in a university. Andrew was certainly a sharp academic, surrounded with an aura of intellectual curiosity that draws students to him. I still remember the first time I walked into Andrew's office as a wide-eyed second year student and came face to face with the man who would become my supervisor for the next six years, spanning over three summer studentships, a final year project, and my doctoral study. He was a 'scary' supervisor with the uttermost attention to detail. He often 'painted' my manuscripts with comments in red such as "yuk!". After a while, I simply counted the number of "yuks" as an indication of the quality of the manuscript.

An instructor in some art. Today when you step out of the lift into the Department of Engineering Science, your attention is immediately drawn to a beautiful piece of Polynesian art hanging on the wall in front of the reception. Andrew commissioned the art piece for the department's 40th anniversary. As a *Pākehā*, Andrew was always immensely respectful to the Polynesian culture. He opened his inaugural public lecture as a professor in fluent Māori verses, which he recorded from a native speaker of the language and listened to the recording everyday to and from work for a month so he could deliver it perfectly on the night.

A person who professes his sentiments, beliefs, etc. This is perhaps the most literal definition of a profess-or, but I find it strangely appropriate when it came Andrew and his stern belief in doing the right thing. As the Head of Department, he always advocated for the welfare of the department and its staff. Even though he sometimes jokingly referred to the position as a 'sentence', we all knew he was genuinely interested in making a positive contribution to the department. He would always make time for departmental affairs, no matter where or how busy he was. One year, after the team worked very hard on a course paper and received very positive feedback from the students, Andrew agreed to thank the team by shouting us lunch even though he was away on a conference in New Orleans.

A person embodies many things. Andrew was certainly much more than just a title, but the title of Professor embodied the many things that I will dearly miss about him - a scholar, a mentor, a supervisor, and above all, a dear friend.



Above: Andrew in an operating theatre (University of Mississippi Medical Center in Jackson, Mississippi, USA). Andrew was there to conduct research on recording abnormal gastric bioelectrical activity in patients with severe digestive problems (gastroparesis). Below: Peng (then a PhD student of Andrew's)



## From overseas collaborators (GI)

### Gianrico Farrugia, Mayo Clinic

I had seen Andrew at various meetings for a number of years but had never really got to know him until a meeting in Hawaii on Interstitial cells of Cajal, the pacemaker cells of the gut, in 2005. Andrew came up to me, laptop in hand, and said he wanted to show me his lab's new model of how Interstitial cells of Cajal work and wanted my opinion on the model. I have since found out that this was typical Andrew, direct, enthusiastic, full of knowledge and expertise, and collaborative; always wanting to do more and do it together.

Since that meeting I have had the honor of working closely with Andrew and his extended team. He practically single handedly put the University of Auckland Engineering Department on the gastroenterology map, a legacy that will last for a very long time and is now carried on proudly on by Leo, Greg, Tim and many others.

During my visits to New Zealand Andrew generously invited me into his home and introduced me to his family and I came to realize that Andrew's remarkable intelligence, drive and ability to get things done will be only part of a rich legacy, his family was so very important to him and will undoubtedly continue to make him proud. We will all miss Andrew and we will work hard to make him proud by advancing the many things he accomplished. My life is richer having known Andrew as I am sure it is for all of us.

### Alan Bradshaw, Vanderbilt University

I crossed paths with Andrew Pullan at a critical time in our research. He had been very productive with his research team in modeling cardiac physiology, and our research into the gastrointestinal system was at a juncture where modeling would allow us to address some of the fundamental questions we had. How did the complex interplay of cellular electrophysiology and anatomy affect the external electric potentials and magnetic fields we were measuring? So my association with Andrew started at the perfect time for me professionally, and it has been an extremely productive and beneficial collaboration.

Nevertheless, if someone asks me how I best remember Andrew Pullan, it has nothing to do with his research acumen, his brilliant, nontraditional approach to solving problems, or his powerful presence as a motivator and team leader. I best remember Andrew as our families would get together and play; as he would bounce Xanthe and my daughters on his knee till they squealed with laughter, and as he would roughhouse together with Zeke and my son Zach. I remember the impromptu (American) football games we'd play together in my front yard when they'd visit. I remember Andrew, not just because he was a great man, which he was, but because he was a great friend.

## From overseas collaborators (cardiac)

### Fred Greensite, University of California

I was lucky enough to have Andrew stay with me and my family many times, sometimes with and sometimes without his beautiful family.

Andrew was such a strong person, and so resolute. He had a lot to teach in that department. Three episodes particularly stick out in my memory of the non-engineering side of Andrew. We hardly get any rain here, but when we do, it is sometimes torrential (our mutual friend Geertjan Huiskamp from the Netherlands has been rained on continuously his whole life, but he says he's never experienced the intensity or rain like it can be here). In one of the biggest storms we ever had, there was Andrew heading out for his run, into the holocaust (afterwards saying, "a bit rainy today, surprising"). Wow.

Another time, I was on my daily biking route around the hills of Newport Beach, and as I arrived at the biggest hill (a few miles long and rather steep), I came upon Andrew on his run. We talked for a bit while he ran beside me, and then I said goodbye and trucked up the hill pretty fast, because I wanted to show Andrew that at least he couldn't keep up with me while I was on a bike. I left him in the dust, but 5 minutes later, midway up the hill I hear a voice right behind me saying in his great lilting New Zealand accent: "By the way Fred, there's something else I wanted to ask you about...".

And finally, with family in tow, Andrew decided to get a Hummer as a rental car upon arriving at LAX one time, and he comes driving up to my house in that Military Assault Vehicle (a car never before seen in this part of Orange County). No visibility, seemingly 10 feet off the ground, ready to mow down the enemy. Huge smile on his face...

### Geertjan Huiskamp, UMC, Utrecht

Science is international. It's good for scientist to meet each other, in person. For that, scientists need to travel. And Andrew Pullan was a scientist who travelled, a lot, and he was one of the nicest persons I have met during my scientific travels. Although true antipodes - New Zealand vs. old Holland - we met often, at conferences or workshops, and this could be everywhere around the globe.

Andrew always had an open-minded, enthusiastic attitude towards science, so discussions about biomedical engineering and beyond were a feast. He came with new ideas, new students and even new gadgets: in the pre-laptop-and-beamer era he carried a Silicon Graphics workstation in his backpack that included a sophisticated (and vulnerable) transparent LCD screen that could be used on an "overhead projector", in an attempt to boldly go beyond the "next slide please" presentation standard.

But Andrew also introduced me to a world several eras before, when he arranged a meeting at Merton College, Oxford, where he and his family rented an apartment in one of the oldest houses in town, across the street from William Harvey's office. Things to remember now. Traveling scientist Andrew will be missed.

### Natalia Trayanova, Johns Hopkins University

I met Andrew over 20 years ago at one of many international meetings. Right from that moment, confirmed in every moment I spent with him thereafter, I knew he was a great guy: amazingly energetic & always so much fun to be around. He had his own quirky take on everything, but held strong opinions without excluding anyone. He loved New Zealand and everything kiwi, and was a passionate ambassador of his country. He and Patti spent a sabbatical at Duke University in the

early 90's, I believe. He taught the Biomedical Engineering students and postdocs how to do a scrum and how to cook a pavlova. We spent the antipodean winter of 1995 in Auckland, and Andrew generously showed off Auckland and its surrounds, as well as acquainting us with New Zealand culture. He loved the outdoors & physical activity, and took advantage of New Zealand's natural beauty at every opportunity. His outlook was always bright. He tackled everything with a vigor that was to be admired. I remember his cheery eyes, and the irrepressible, almost always mischievous, smile. He was a natural phenomenon, almost unstoppable. Until incomprehensibly he had to stop. But in remembering his spirit, and taking inspiration from it, he had not.

### Rob MacLeod, University of Utah

I first met Andrew in 1992 when he came to visit the University of Utah, a scouting mission for a later sabbatical.



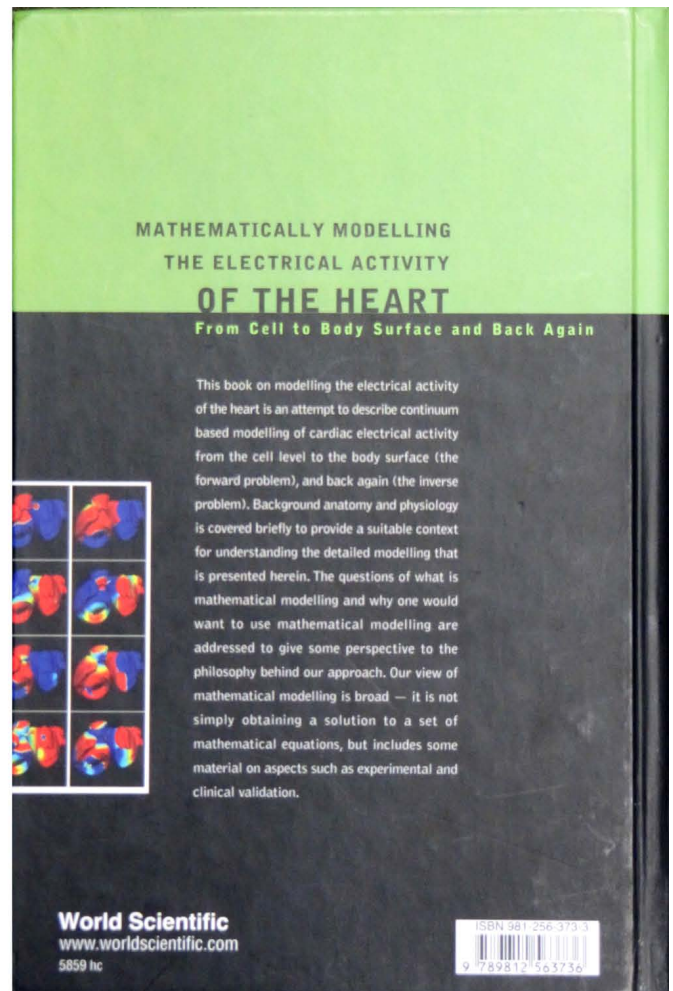
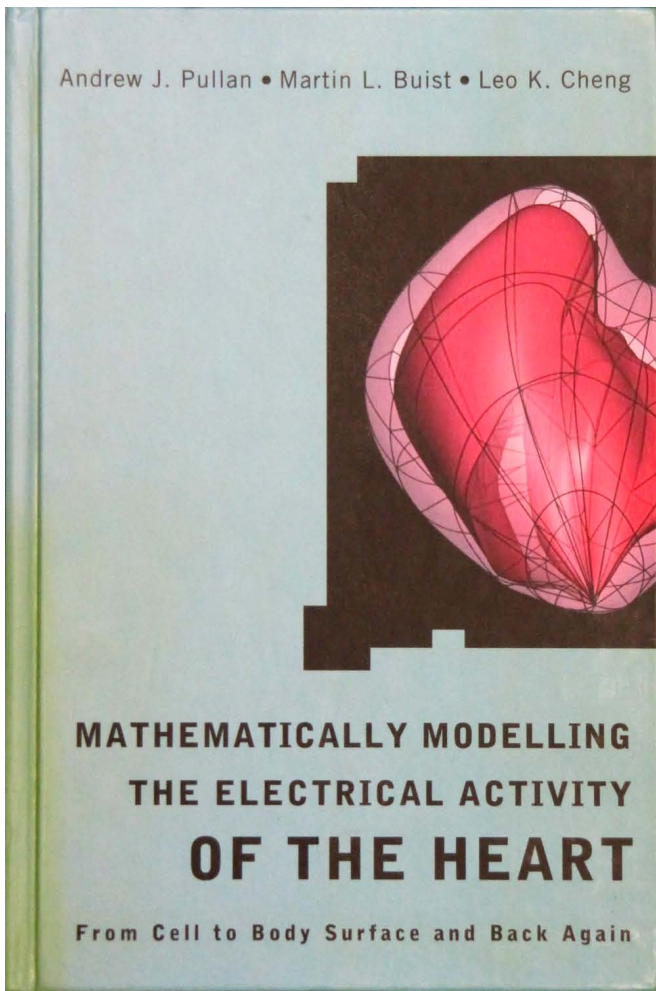
All who knew Andrew will recall his competitive spirit and in 1992, he was still very young and frisky and keen to show us coddled Americans (actually Canadians, which was, in hindsight, perhaps his mistake) that Kiwis are tough, fit, and winners. Within the few days he spent in Salt Lake City, Andrew went with my wife and/or me hiking up to 10,000 ft., mountain biking in the hills above the campus, road riding along the nearby canyon roads, and swimming in the local 25 meter, outdoor pool. He loved every minute of it, but found himself a little more challenged than he expected. His comment as I drove him to the airport was "I never figured when I came to Utah that I would be outhiked, outbiked, and outswum but a couple ten years older than I am, and certainly not in the space of a few days!".

When Andrew returned for his sabbatical in 1994, he was determined to settle the matter and use the extra time to get used to the altitude. He borrowed a bike and joined the local bicycle racing club with me and the local master's swim group with my wife. He was famous on club rides for insisting on leading the group for the first part of the ride, and then fading miserably as experience overcame youth and he had to retreat to the shelter of the pack. But his biggest concession was to the dry air in Utah. With all the time in the pool, the dry heat, and the altitude, his skin was soon a mess and he itched from dawn to dusk. When my wife suggested he do what everyone else in Utah does and use skin cream, he looked at her with disgust and declared that "Men don't use cream for their skin!" But with time, even Andrew's legendary stubbornness gave way and he every so quietly took to the cream and the resulting relief. However, while he never did beat me up Emigration Canyon on the bike, he never tired of trying.

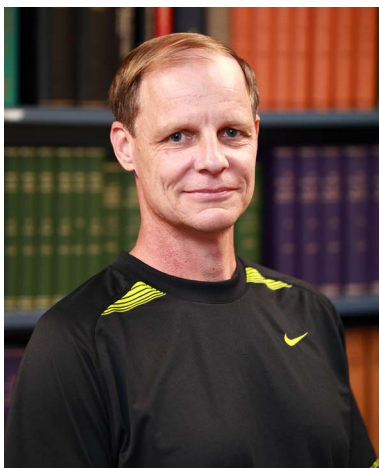
With time, Andrew mellowed a little in his competitiveness and we remember most the days spent skiing with him and Zeke at Alta. Andrew was a functional skier and mostly proud of his son, determined to give him a window to the world that Andrew never had a child. Watching them together over the years was always a joy and a reminder of what a great father, husband, and person Andrew was. We all miss him so much.

### Keri Moyle (current DES staff member)

19 years later Andrew was still determined not to be beaten on the bike. I'm a fairly small person, which means I enjoy the hill climbs and don't do so well on the descents, and I always like speeding up Symonds St on the way home. One day I went past Andrew (without recognising him from the back). He caught me up a while later and told me off for overtaking him, saying he wasn't going to be beaten by some little girl. The rest of the conversation consisted of something like "get used to it, old man" before the lights changed and we were off again.

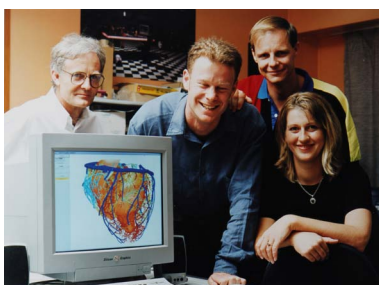


Above: Andrew's book



Above: 2011 Andrew's ABI staff photo

Below: Peter Hunter and Andrew Pullan with their (then) PhD students, Nic Smith, and Merryn Tawhai. The heart model heart shown is the work of Andrew, Peter and Nic.



## From the Auckland Bioengineering Institute

### Bruce Smail, Deputy Directory

I have been asked to write a few words about Andrew on the behalf of the Auckland Bioengineering Institute. I have elected to speak personally, but I know that these views are shared by his many colleagues and friends in the Institute.

I came to know Andrew well over a period of eleven years as a colleague in the Bioengineering Institute, as a collaborator who shared several research grants and co-supervised graduate students with him, but most importantly as a friend. Andrew claimed to be a simple person, someone who saw life in black and white and responded accordingly. There were certainly strong aspects of this in Andrew, but it seems to me that his personality was both more complex and more sympathetic than this self-portrait might suggest. The constant features of Andrew Pullan were that he was fearsomely bright, extraordinarily energetic, and that he cared intensely about everything that he did. Depending on the nature of your relationship with Andrew you may well have seen a number of different faces. Managers or colleagues pursuing a course that he disagreed with could expect to meet implacable opposition, bluntly expressed. Collaborators will remember Andrew's commitment, dependability, organisation and optimism; there were always solutions to problems. For Andrew's immediate research team and graduate students, there is no doubt that he was an inspiring leader and a great mentor. Finally, as a friend he was loyal, generous and great fun.

What are the things that we will remember most about Andrew? For me, they are his beguiling enthusiasm and the fact that he was always able to laugh at himself and the world; his courage and honesty, particularly in the final months of his life; and his unconditional love for his family.

Andrew Pullan was a good man in the most complete sense. We miss him greatly.

## Eulogy: John Morris Headmaster, Auckland Grammar School

I first met Andrew Pullan in 2005 when he joined the Board of Trustees of Auckland Grammar School. Many of you here today may have been surprised that, at that time, Andrew accepted the offer of a place on the Board because he had no previous contact with the school and was new to the area. And indeed Andrew was very different to the rest of the Board.

The first point of difference was that Andrew was a South Auckland boy who attended Aorere College; whereas the Board (apart from me) were heartland Grammar Zone and all old boys, except one other who was a King's Old Collegian. At least however, Andrew and I had something in common, having been brought up in South Auckland and West Auckland respectively.

At the time of his induction onto the Board therefore, Andrew had absolutely no knowledge or understanding about Auckland Grammar School (before his son Zeke started), whereas the rest of the Board were imbued with the Grammar philosophy and the Grammar way of doing things.

Andrew in fact had been nominated for the Board by retiring member, Julie Maxton, then Dean of Law School at the University of Auckland, to continue the strong link between the Auckland Grammar School Board and the University. The university have always had a representative on our Board marking the fact that when the University started in the early 1880's it was allied to Auckland Grammar School.

In those days Auckland Grammar School was called Auckland College and Grammar School. This connection has long been seen as significant by both institutions. But initially to Andrew it was all a bit of a mystery! And it did take him some time to get to grips with the 'Grammar Way'.

On top of all this there was Andrew's dress sense. Board meetings at Auckland Grammar School were invariably formal – suit and tie in general. I will never forget Andrew's first Board meeting – he turned up in a brightly coloured polo shirt, walk shorts which were, well, quite short, running shoes and mid-length sox. Despite all the jibes he got, Andrew never buckled and stuck to his own dress code throughout his years on the Board.

Regardless of all these fundamental differences, Andrew grew to love the Board, the debates and the people on the Board, and he loved the School, especially once Zeke started at Grammar. And the Board in turn grew to enjoy Andrew and respect his viewpoint, which was, as you can imagine, at times quite different.

Once Zeke started at Grammar in 2008, Andrew really began to understand and appreciate the school and he was so proud of Zeke's academic success at Grammar and the good mates he made at school, many of whom are here today.

Andrew particularly enjoyed his involvement with the Grammar Rowing Club of which Zeke is a member. Although not a rower himself, I think Andrew felt a great affinity with the sport because of the qualities needed to be successful in it: commitment, dedication, team work, strength, fitness and camaraderie – all things Andrew himself believed strongly in. His presence at regattas was much appreciated by the rowing club.

From my perspective, I enjoyed having Andrew on the Board and getting to know him better. In some ways Andrew was the conscience of the Board, raising matters that had previously been ignored and others that challenged the Board on different levels. From initially being a good

listener on the Board, he soon became an integral, highly valued and contributing member.

Having Andrew on the Board also enabled us to get to know Patti and that has been a real joy for us, and I certainly hope that Patti and the School will stay in close contact.

Since Andrew's illness we have really missed his presence round the Board table. I know how much he will be missed at the University but he will also leave a gaping hole on our Board.

Andrew Pullan was a fine man, taken far too young. He was a wonderful father and husband, a man of conscience, intellect and integrity. His optimism and bravery, evident throughout his illness, were inspirational.

On behalf of Auckland Grammar School I want to thank Patti for sharing Andrew with us on the Board. We have all benefited greatly from knowing him.

Per Angusta Ad Augusta



Above: Auckland Grammar School Board of Trustees (John Morris front row, second left).  
Below: Andrew with Zeke at a rowing event.



## Eulogies: Andrew's sisters

### Rachel Mattocks

I read somewhere that there are only three things of value you can say of a person at a funeral:

You love them  
You miss them  
You will not be the same for knowing them.

In loving Andrew there was also a great deal of respect. He was strong yet gentle, hardworking yet lots of fun.

I have here something my parents wrote as a comment on Andrew's blog: It reads: We are so very proud of the boy you were, the man you have become and all you have achieved. The caring and loving husband, father and son; someone who is always there in time of need. And now as you face one of life's biggest challenges with dignity and fortitude we can only, once again, be amazed at your strong will and determination to overcome and succeed. Our love and prayers are with you always.

I ask you: How can you adequately describe a mother's love for her son? How can you effectively express the pride a father has for his boy? Especially someone like Andrew.

It's like looking at a iceberg. You can see what's above the water but most of what it is, lies under the surface.

When I was in my teens Andrew decided that his house needed painting. I was a willing but somewhat naïve volunteer, as I am sure some of you can appreciate.

I was set to the task of scraping windows. While I was busy working Andrew came by to see how I was going. He noticed one of the hinges was loose so he set about fixing it. In order to get to the hinges I needed to hold the window horizontal, and this up a ladder. First he replaced the screws, with ones twice as long.

When Andrew wanted something to stay it wasn't going anywhere.

However, once he'd replaced the screws, the window would no longer close because the house was so warped.

So we proceeded to take the window down and pack up the hinge. The first time we did this, it wasn't quite enough, so we had to take the window down again. By this time I was getting pretty fatigued.

But Andrew offered plenty of encouragement for me to hang in there, and we got the job done.

It was only afterwards I noticed that he'd been working so hard and fast he'd given himself a significant blister on his hand from turning the screwdriver.

You see, he would take the pain for you. And you knew that no matter what you did he would start earlier, work harder, and be the last to give in.

But he also wanted you to succeed too, and that made it so you wanted to go that little bit further, work that little bit longer and think that little bit harder.

In honouring Andrew's life I think most significant thing you can do is being all that you can be. Andrew did that ... and then some.

### Heather Benn

Professor Andrew John Pullan. It's an impressive title, and many of you here will have known Andrew in an academic setting or for the contributions he made to the various organisations he was involved in. But I had the privilege of knowing him as my big brother.

I have often been asked, especially by his students, "What is it like having Andrew for a brother?" Well I want to answer that question today.

Andrew was the type of brother who, at the age of 13 saved up his pocket money for weeks, just so he could take his 5 year old sister Catherine to the movies... to watch Puff the Magic Dragon.

Andrew was the type of brother who, at the age of 16 saw me, his other little sister fall down at the start of a race. He came over to me, wiped away my tears and lifted me to his shoulders. He carried me there until I felt better.

Andrew was the type of brother who, when his younger brother Malcolm was going to get married, he travelled half way around the world to be with him, and be his best man.

Andrew was the type of brother who took me to Rangitoto Island when I was 13 years old. When he found I had an infected leg halfway up the climb, he walked beside me encouraging me all the way to the summit, while others raced ahead.

That was the type of brother Andrew was. He was gentle, funny and kind. He picked us up when we fell down, he wiped away our tears, he encouraged us every step of the way and rejoiced with us in our celebrations.

Professor Andrew John Pullan. Yes, it is an impressive title, but I can honestly tell you that he placed more value on the other titles he was given in this life. Titles such as friend, son, brother, husband and father. It is for this reason we are here. In every way Andrew was exceptional... and we will miss him very much.

Andrew with his sisters, taken 12th October 2010 at the wake of their grandmother's funeral. Left to right: Rachel holding her youngest child, daughter Bethsharon; Andrew; Catherine; Heather. Rachel and Heather are twins.



## Eulogy: Andy Philpott

### Professor, Department of Engineering Science

### Presented at (University of Auckland) Senate

ANDREW JOHN PULLAN 1963 – 2012

Andrew Pullan was born in 1963. He was dux of Aorere College in Mangere, won a University Scholarship, and completed a BSc at Auckland with first class honours in mathematics. Andrew joined the Engineering Science Department as a PhD student of Ian Collins in 1985. After receiving his doctorate in 1988, he spent a brief period working for Winstones/Fletcher Challenge, before returning to the University as a lecturer in 1989. Andrew then moved quickly up the academic ranks culminating in a personal chair in 2006.

Professor Mike O'Sullivan commented in his eulogy at Andrew's memorial service that Andrew never smoked cigarettes, nor drank alcohol, or coffee, or tea. Despite this virtuous existence, Andrew was an excellent mathematician. He made many mathematical contributions to bioengineering - I will mention one. This was his research on inverse problems - in simple terms, how can one estimate values for the hidden electrical data inside the human body from measurements taken on its surface? This is not only a problem of instrumentation, but involved some deep mathematics involving the estimation of under-determined systems. In Andrew's own words, "It is impossible to recreate the electrical state of each cell in the heart from surface electrical recordings, no matter how many surface recordings are available...multiple configurations of cellular activity can give rise to the same ECG signals". The contribution of Andrew and his team was to use highly detailed mathematical models of human anatomy to narrow down the possibilities.

Andrew's research began with the heart, but in later years focused on the stomach and intestinal tract, winning him a James Cook Fellowship in 2003, and a Fellowship of the Royal Society of New Zealand in 2009 for his pioneering work in this area. It is clear that he was destined for even higher honours, and his death is a great loss for the New Zealand scientific community.

Andrew's inaugural professorial lecture was a tour-de-force. A large monitor displayed electrical body measurements of Andrew himself, obtained in real time as he paced around the lecture hall. I now regret that this lecture was the only one of his that I saw in person, for he had a reputation with our students for being a fantastic teacher, engaging them with entertaining demonstrations, often at his own expense. He regularly appeared in the Engineering School's top 5 lecturer awards, and attracted the brightest graduates as PhD students. Andrew was an enthusiastic and generous PhD supervisor, and his students willingly repaid this generosity by helping him with his legendary house renovations.

Andrew was a hero of our Department, Engineering Science. Although he did most of his research in the Bioengineering Institute, his loyalties were to the Department, and he was a champion of the Engineering Science degree. I never thought to question him about this, but I suspect that one reason was that he could see the opportunity provided by the degree to students who are very clever but, like himself, come from less privileged backgrounds.

As Head of Department from 2008-2010, Andrew committed himself to the task of promoting the Engineering Science degree throughout the country to maximize the potential for all students to benefit from the same opportunity that he had enjoyed. He created "New Zealand's Next Top Engineering Scientist" modelling competition, which is carried out each year in over 100 New Zealand secondary

schools. It offers scholarships (now called the Pullan Prize) to the winners and serves to attract some of the country's brightest mathematical talents to our programme. Along with his research, I think that this will be remembered as one of Andrew's great contributions to the University.

Andrew was a fitness fanatic, and was extremely competitive. Way back in 1989, I introduced Andrew to Ron Paterson from the Law Faculty, and the three of us used to run together after work. We used to try and break the record for a Hobson Bay pipeline run. After being told that Ron and I had done it in what we thought was a spectacularly unbeatable 35 minutes, Andrew went out the next evening on his own and proudly announced a time of 33 minutes, which was never bettered. Through Ron, Andrew established friendships with a lot of the Law faculty in the University. This might surprise some of you, as Andrew would not have been perceived as having much in common with lawyers. But I think that people like Mike Taggart and Julie Maxton could instinctively recognize Andrew's intellectual pedigree, and they all became Andrew's close friends. On top of this Andrew was very entertaining, and great company.

Andrew was a thoroughly decent human being. He was a devoted husband to Patti, and proud and supportive of his children Zeke and Xanthe. Andrew showed great kindness and generosity towards his friends, colleagues and students. He was a very courageous man in all respects. Senate will remember that he stood up for what he believed was right, without concern for his reputation.

Andrew died of a metastatic melanoma. He was hopeful of the success of a new BRAF drug discovery; his blog describing the ordeal of this treatment was called "Andrew's recovery". To help fund the treatment, David Ryan set up a trust which received contributions from Andrew's friends from all around the world. The treatment appeared to be working well, though Andrew was in considerable pain. In early March, it was discovered that the cancer had mutated, and that the treatment would no longer work. He went into Mercy Hospice and died on March 7. He was 48.

Andrew's memorial service at the McLaurin Chapel was attended by nearly 600 people, and his death was mourned by many more, from all around the globe. The Department, School, University and country has lost a brilliant mind and a unique personality. Patti, Zeke and Xanthe have lost a loving husband and father, and those of us who knew Andrew have lost a true friend. We will all miss him more than I can say.

Top, left to right: Andrew in formal photos for BSc, PhD, HoD, FRSNZ award  
Bottom, left to right: Andrew with Andy Philpott and Ron Paterson, Andrew with Patti, Zeke and Xanthe

