Acceptance Speech
Monash Civil Engineering Alumnus of the Year Award 2015

Prof Jeff Walker
Distinguished guests
Ladies and gentlemen

This, here, is one of my life’s milestones and I’m pleased that you’re here with me. I’m grateful and deeply honoured to have been selected to receive this Award, and I’d like to take a moment to celebrate the many thousands of alumni that have shared the Monash Civil Engineering experience since 1961 and the many thousands that will join us in the coming years. I share this Award with you all tonight for making this, our family, brilliant.

And like a proud member of the Monash family, I’d like to tell you a bit about our family history, or my experience of it.

I arrived in Monash to read the civil engineering programme in March 1975 (Slide 2). At the time, I was young – much thinner and, of course, rather naïve like most young people tend to be. Initially, I stayed in Farrer Hall and I fondly recall that on my first day, the staff in Farrer Hall informed me that tea will be served at 6pm. Back in my original country – Malaysia, tea is usually taken at 4pm and so I was rather shocked to discover that Australians took their tea quite late at 6pm. Little did I know that ‘tea’ in Australia was dinner. So I was pleasantly surprised to discover that instead of biscuits and watered down tea, I ended up with a sumptuous plate of roast.

During breakfast the next day, I noticed my Australian hall mates enjoying a kind of black jam on their toasts (Slide 3). Being the curious soul I am, I gave it a go and discovered a truly alien taste. To this day, I cannot comprehend how one can enjoy the vegemite spread on toast, or how people eat it with avocado and cheese. But some culinary adventures were simply magic. I was introduced to pizzas (Slide 4), which really was the only food choice for supper at the time since all shops were closed in the evening except for the pizza shop along Wellington Road. My first pizza tasted horrid to my Chinese palate – we weren’t exposed to cheese back then. But, as I discovered over many desperately hungry evenings, the more you eat it,
the more you like it. Now, I say “Bring on the Pizzas” and “Bring on the cheese plate.”

When I think back on how we were taught, I must say that Monash professors were rather innovative in teaching for its time. For instance, in the Mechanics of Structures lectures, we all had to watch pre-recorded videos made by Dr Peter Darvall (Slide 5) and Dr Ken Atkins. After watching the videos, Dr Peter Darvall would then enter the lecture theatre and ask if we had any questions. Usually, there were no questions because most of the time we could not follow the lectures on the videos. It was great that we could re and re-watch the videos in the Hargrave library. Nowadays, we hail the flip classroom and massive open online courses (MOOCs) as modern ways of teaching. But Peter Darvall and Ken Atkins of Monash had conducted this teaching methodology some 40 years ago!

Now, I must share with our younger Monash family members what it was like to use computers back in the 1970s (Slide 6). Those days, we had to first write the computer code neatly on a sheet of paper and check the code carefully to avoid any errors. In order to run the computer program, we had to use computer cards and shade the letters and numbers of the computer code using a 2B pencil. Then we queued up to place our computer cards to be read by the computer reader. We left and the next day, we would rush to the computer centre for our results. If there was a single sheet of paper waiting in our pigeon hole, this would be a bad omen. It implied that the computer program did not work due to some bug. If this was the situation, we would have to re-shade the appropriate card and wait in queue to run the program again. On the other hand, if there was a pile of computer paper generated, it generally meant that the program ran well - good news.

When I started my Master programme in 1979, we were thrilled to have computers that looked like fancy typewriters, but they were not equipped with monitors. This new version of computers allowed us to instantly see the results being churned out. This was a vast improvement over using the main frame computers; given we no longer had to wait a whole day for our results. Then, in 1980, I began my PhD and we had a silent computer with a monochrome monitor - which was a pretty big deal then. It even came with a 64 kilobyte capacity! By the way, there was no internet or the world wide web some 35 years ago. Fast forward to today, we have these smart phones that allow the browsing of the Internet for information, to take and store pictures, to check our calendar and diary, to set our alarm clock, locate our
position using GPS, get taxis, find great restaurants and shopping bargains and even find our life partner. What a dramatic change. These changes will continue with perhaps Tony Stark’s (aka Iron Man) interactive computers being ubiquitous in the near future.

I am humbled by this award and I wish to dedicate it to Prof George Rozvany (Slide 7) who is now an emeritus professor in Technical University of Budapest. He was the one who persuaded me to read my Master and PhD at Monash University and set me on the course to where I am. Prof Rozvany was incredibly brilliant and extremely supportive of me in my research work. He regularly visited Germany and often returned with new problems for me to work on. I conducted cutting edge research on optimal arches (Slide 8), archgrids (Slide 9), grillages and plates. Because of the diverse problems that I solved, my thesis ended up with an unusual title - “On Some New Classes of Optimal Structures”.

Prof Noel Murray was also an inspiration to me (Slide 10). He was a lighthouse in my university education – stumbling in the dark, I’d turn to him with questions, and he would never tell me the answers, but instead shone a light forward, telling me to search out for that answer. He made searching for answers exciting – and it has imbued a sense of adventure in my work that has lasted for over 30 years. As students, we were frustrated and just wanted to be spoon-fed. But it takes discipline and foresight to prod the cattle forward to greener pastures.

He was accompanied by Prof Paul Grundy, who to be candid, was a little miserable at speaking to you at your level, and left you perpetually perplexed. In the end, beaten by his lectures on structural stability and dynamics, we retreated into the library to nurse our incomprehension and seek out answers. But he was a marvel to behold, and he was a signpost in my life as I sought to become as good as he was.

All Monash professors were instrumental in helping me become an independent learner and an original thinker; attributes that I still appreciate with renewed vigour over the years.

The importance of a good education can never be overstated. I got into the National University of Singapore because of the sterling reputation of Monash. I know this because I have gone on to do some really interesting things on the bedrock of the instruction I got here. Over the last 33 years, I
have worked with many renowned professors (Slide 11) and was privileged to speak and work in more than 30 countries and over a hundred cities (Slide 12). The research has been fruitful and exciting; yielding over 500 papers, several published books, and a few patents filed. I am now known for my work on relationships between classical solutions and shear deformable structural solutions (Slide 13), very large floating structures (Slides 14 to 15) and structural models for stability and dynamics analyses.

I was also given the opportunity to do different things such as being appointed an Associate Director of the Centre of Development of Teaching and Learning in the National University of Singapore where I experimented with new teaching methodologies. The job as the Vice Dean of Undergraduate Programmes in NUS Faculty of Engineering opened my eyes to the diverse university educational programmes and learning pathways. Now, as the Director of the multidisciplinary Engineering Science Programme as well as the Director of the prestigious Global Engineering Programme for the best and brightest engineering students in NUS, I get to learn about many cool stuff such as scanning electron microscopes, fabrication techniques for nanostructures, 3-D printing, and clean energy systems.

As a Fellow of the Academy of Engineers Singapore, a Fellow of the Institution of Engineers Singapore and the Institution of Structural Engineers, I get to sit on committees and work on many exciting problems including harvesting energy from the ocean using Ocean Thermal Energy Conversion, creating space via Very Large Floating Structures Technology and Next Generation Container Ports (Slide 16).

My career is still unfolding. In fact in some ways it has just begun. And this is why I am so honored to be a recipient of the Alumnus of the Year award. I see it as a statement of encouragement that I am on the right track. I hope to write more books, meet many more exciting people, and to touch many more lives. I am excited about the future.

To end, this next slide shows my greatest creations (Slide 17). Thank you.

Prof C.M. Wang