

## Engineer Branch Newsletter Autumn 2020

### **Branch Committee Meeting News:**

The bi-monthly Branch Committee meeting was held once again in the pleasant environment of the Mail Exchange Hotel on 3rd February. Matters discussed included:

**(1) Branch Financials - An Horrific Tale:** Our Hon Treasurer Glen Gould reported that after unconscionable delays, obfuscation, negligent handling of incident reports, circular on-referrals and denials of the systemic failures in the processes to complete the financial institutions guarantees of return of stolen funds, *about half of the Branch funds were restored*. Involved in this debacle were institutions such as the Credit Union of Australia (no longer on our books), ACMA - the Australian Communications and Media Authority whose loopholes enabled unauthorised porting of Glen's mobile number and whereupon less than 30 minutes later our Account was cleaned out, and the Australian Financial Complaints Authority (AFCA) - which organ has no authority - they *only recommend* a course of action. Much discussion around the Committee table ensued, and several suggested this saga would be ideal for an ABC TV 4 Corners investigation.

Some Telcos (but not all) are only now invoking positive vetting with their customers regarding request to port (ie transport) from one Telco to another, by more secure means such as security questions. As Glen noted, we have been completely misled in the past by ACMA about the date when the Telcos are required to positively verify a phone porting activity - one assured date was given by ACMA was the end of September 2019 - and that turned out to be a bureaucratic falsehood. ACMA announced on Friday 28 February 2020 that carriers (Telcos) now must comply by April 30 2020 with new rules that mandate Telcos impose additional identity verification steps when porting someone's number or face penalties of up to \$250,000 for failures.

Dubbed the Mobile Number Pre-porting Additional Identify Verification Industry Standard 2020, the move has been welcomed by Telecommunications Industry Ombudsman (TIO) who said *this would help* safeguard people from having their bank accounts "drained".

The actions and sheer persistence of Glen Gould and David Graham since July 2019 have spurred ACMA to at least take some action. The TIO has displayed a lack of interest and inability to respond quickly, telling Glen they only communicate with ACMA once a year (Glen has that email evidence from the TIO).

All agreed Glen has acted above and beyond what should be a Treasurer's normal role, and again demonstrated his legendary enthusiasm in resolving problems (mostly the more pleasant ones of mathematics and engineering).

Also, the Branch has refunded Jack Pluck's very generous loan, which helped enormously in tiding us over since last July - many thanks Jack.

**(2) Next Luncheon:** The next bi-annual luncheon will be held on Wednesday 10th June after the Queen's Birthday holiday Monday. The Batman on Collins will again be the venue. John Clarkson advised there are two options meal-wise: a choice of alternates as previously with a likely cost of \$50 per head, or a "no choice" at \$45.

We are still very keen to have an expert from CSIRO to talk about the Square-Kilometre Array (SKA) for our June luncheon, so stay tuned.

**(3)** Carl advised that (following an enquiry from Rod Harris) there will be an **RMIT Esteemed Alumni Morning Tea** on Monday 1st June at Storey Hall. These Morning Teas are well worthwhile

attending, as the keynote speakers are often drawn from the academic staff involved in cutting edge research and current affairs, and judging from past events, there will be a tour of specific facilities.

(4) On 14th March, the Air Force Association (AFA) will be holding an Afternoon Tea function at the Victorian Headquarters to commemorate 100 years of the AFA. One big advantage in having this AFA Vic function at the HQ is the readily available car parking on the premises and nearby streets. Advice to all Members has been sent out by AFA (Vic) HQ. (sadly postponed due to COVID-19)

(5) **Welfare:** Branch Members are reminded that the AFA can consider welfare assistance requests including for example cases of financial hardship or transport for handicapped persons to Branch meetings. The appropriate contact is Noel Hadfield (see details at end of newsletter).

(6) **Engineer Branch Webpage:** Gratitude was expressed for the efforts of our "Webmeister" Ellen McRae (just happens to be Kingsley's daughter-in-law) and the direct link is <https://www.reoa.org.au/> and is highly recommended - make yourself a cup of coffee and enjoy!

### **Esteemed RMIT Alumni Luncheons:**

The Air Force, and our Engineer Branch, has a long association with many attending as students at RMIT. The Air Force student involvement with RMIT in its various transformations ranges from WW2 1939 to 1945, then continuously from 1948 to 1985, followed by RMIT's support at the RAAF College Point Cook until 1992. These RMIT Esteemed Alumni Luncheons, and other Alumni functions, are highly valued, providing as they do quite profound personal connections to our early engineering education days.

Since the Summer 2019 edition of "Contact" the Engineer Branch has enjoyed two RMIT Alumni Luncheons at the William Angliss School of Hospitality; one held on Monday 2nd December 2019 and followed by another on Monday 2nd March 2020 (latter being billed as the "first of the new decade" - well, not quite - actually the last of the decade January 2011 to January 2021, but maybe that is an argument for later!).

The December 2019 Alumni Luncheon was briefly noted in the Summer 2019 "Contact", however printing deadlines prevented a more detailed account, which follows here:

At the December function, the keynote speaker was Professor Carey Lyon, School of Architecture and Urban Design at RMIT, detailing the architectural history of the RMIT University from the original Working Men's College (1887), Melbourne Technical College (1934), Royal Melbourne Technical College (1954), Royal Melbourne Institute of Technology (1960) and to today's RMIT University from 1992.

The design concept of today's facilities was described in detail, noting the "City Campus - Campus City" environment concept coupled with the intriguing question "Is RMIT in the City, or is the City in RMIT?" - arguably both apply.

To that end the architects carried out detailed surveys of the city facilities relevant to student needs, including nearby student accommodation, cafes and coffee lounges, places of "retail therapy", nightspots, wireless locales (wi-fi), and also looked closely at the many iconic laneways of the City with a view to emulating these attractions into the new RMIT University building designs.

The list of "likes" from student surveys included casual comfortable chairs with compatible tables in well lit areas with plenty of power points for laptop computers and mobile phone charging (unheard of "in our day").

**RMIT went from this:**



**1880's**

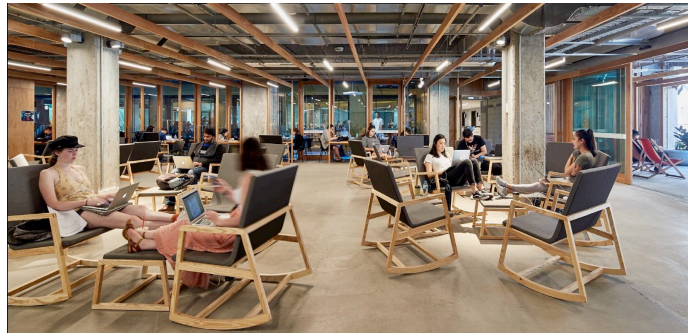
**to this today:**



**...and student environments from this:**



to this:



(Note the rocking chairs and deck chairs outside.... these chairs were designed and built by RMIT iaw AS/NZS 4688.4:2000 for Furniture - Fixed Height Chairs - Part 4 - Determination of Stability - Chairs with Tilting or Reclining Mechanisms when Fully Reclined, and Rocking Chairs)

The most recent Alumni Luncheon was held on Monday 2nd March and 9 Members with 7 Guests attending, and we again experienced "affordable fine dining", yakking with our alumni colleagues, and engaging with a keynote speaker with who we had considerable resonance.

The Keynote Speaker was one of Australia's most innovative engineers - Associate Professor Kate Fox. She is the Associate Dean (HDR) – School of Engineering, the Superstar of STEM 2019-2020 and the Most Innovative Engineer 2019 (Manufacturing & Automation).

Kate has dedicated her career to improving the lives of people living with physical and intellectual disabilities and contributes her engineering skills to some of the largest medical bionics projects in Australia. Much of her work relates to 3D Printing - she opened with the cartoon below (the chap is wearing those historic 3-D movie viewers) -and her great sense of humour continued.



Some of the remarkable innovative design and build projects were described by Kate, such as

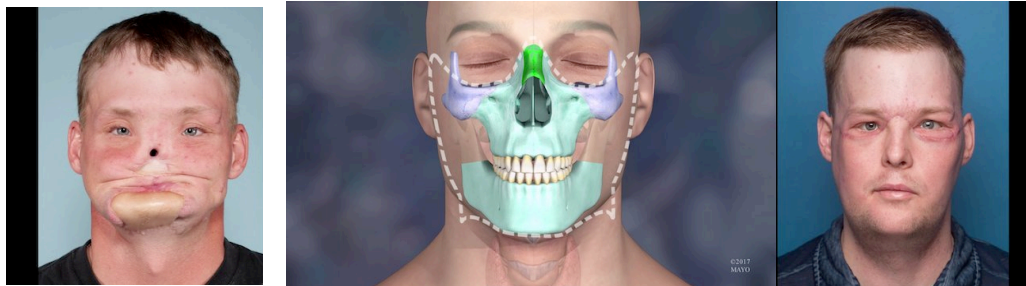


# Just In Time Implants: RMIT



The JIT Implants have the big advantage in that the 3D picture of the tumour-afflicted bone is taken a day before the surgery to remove the tumour with minimal bone removal and replace the removed bone with the implant that has been manufactured just hours before.

Previously the problem had been the usual several weeks elapsing between obtaining a virtual 3D image and then making the implant for surgery; the tumour in the meantime could grow significantly leading to problems with the final fit. Another striking example of the application of 3D printing in Facio-Maxillary surgery was described (and to applause from the audience).



Before

3D Print of Chin, Cheek and Nose

A Wonderful Result

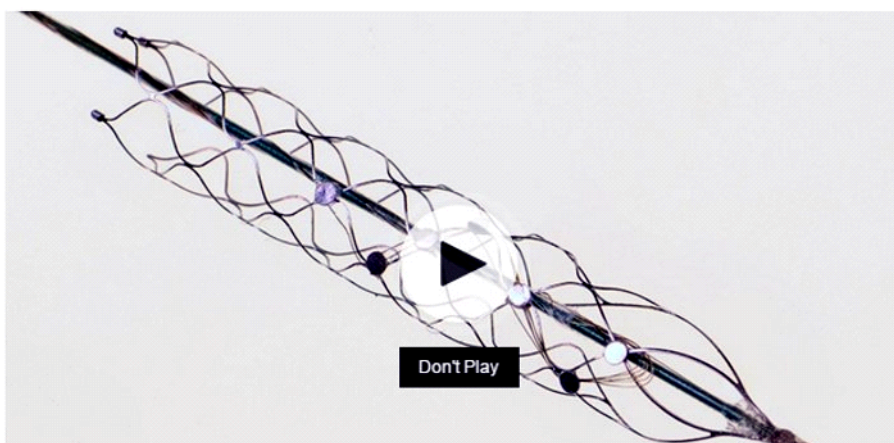
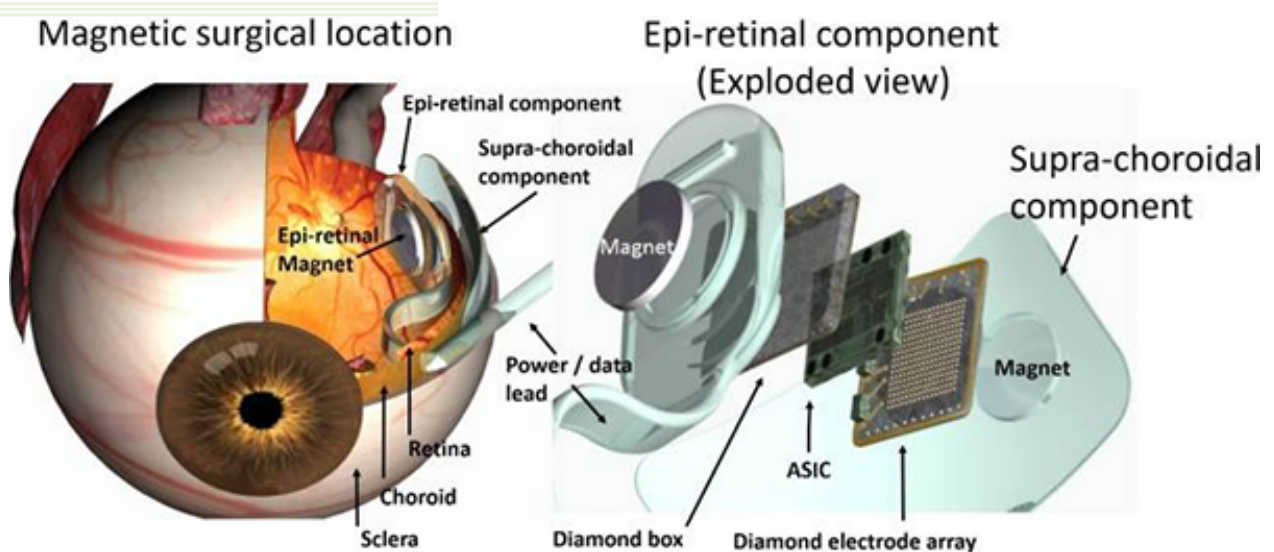
Among other achievements, a bionic eye, which as Kate explained, does give totally blind people a recognition of light and shade, which is a start for the ultimate development of full sight (see picture below).

Also described was the prospect of "movement by thought" employing the "bionic spine" for those with paralysis. Key to the "bionic spine" is a stent the size of a small paperclip, which with the aid of a catheter, is inserted into the jugular vein in the neck and pushed up the vein until reaching the motor cortex - that part of the brain at the top of the head which controls movement.

Using a vein as a highway to transport the stent means patients will avoid invasive brain surgery and hospital stays, with the technique instead requiring little more than a day procedure accounting for a few hours.

Containing 12-electrodes, the stent is like a recording device which collects the electrical activity from neurons in the patient's motor cortex before translating the activity into commands. The commands are carried via 12 wires to a transmitter implanted just under the skin on the chest. The transmitter then sends the commands wirelessly to an exoskeleton - or to a wheelchair, enabling mobility for the user.

The Stent with the surrounding electrodes

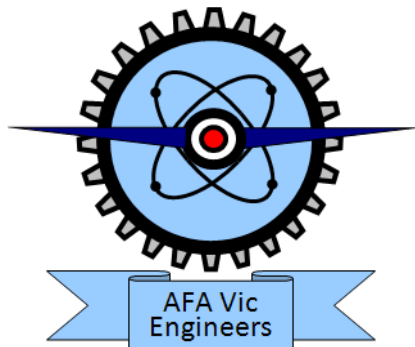


Further reading about the "bionic Spine" article by Bridie Smith in the Melbourne Age February 9 2016 is at the following link :

<https://www.theage.com.au/technology/human-trials-for-australian-made-bionic-spine-to-start-next-year-20160202-gmjqudj.html>

Those present on our tables at the 2nd March luncheon included Kingsley McRae, Hilary and Bill Belton, Jack Pluck, Brian Fuller, Brian Livingstone, Beverly and Carl Dillon, Carol and Glen Gould, Ian Douglas, Richard Orr, David Graham. Rod Harris, Michael Kolawole, Stuart Reid and Ken Johnston.

Finally, any items of interest for the Engineer Branch Newsletter would be most appreciated by Carl - email is [carldillon@optusnet.com.au](mailto:carldillon@optusnet.com.au)



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We wish you all Ongoing Good Health and Happiness,  
and a Joyful Time with Family and Friends, now and  
always

***Carl Dillon***

On behalf of David Graham and the Committee