

Korea MedTech September 1-2 – University of Newcastle

Snapshot of research for profiling and organising meetings with companies during Korea MedTech visit

Researcher	Discipline Research/technology	Description	Weblink
Professor Peter Fletcher	<i>Cardiovascular medicine</i> A new procedure for stopping heart attacks.	New treatment protocol pioneered and developed by University of Newcastle researchers since 2008. The Pre-Hospital Thrombolysis (PHT) program has ambulance officers stream ECG data from the patient directly to a doctor at the hospital via their smartphone. With the aid of this innovative technology the doctor can assess the patient and instruct the paramedics to proceed with the appropriate treatment of clot-busting drugs, in some cases hours earlier than would have previously been possible. It also allows the hospital to activate its cardio-catheterisation team earlier and speed up the patient admissions process, saving more valuable time and healthcare costs. The program has now been rolled out to the whole of NSW and is being adopted in a number of other states across Australia.	https://www.newcastle.edu.au/profile/andre-w-boyle
Professor Su Ku Thambar	<i>Cardiovascular medicine</i> Heart valve replacer	Development of a technology to allow Mitral Valve replacement via a minimally invasive, transcatheter technique and thus address a very large unmet need for the millions of patients suffering mitral valve regurgitation. The potential market size for TMVR technology is not in doubt. The occurrence and prevalency rates for mitral regurgitation give a potential US market of 45,000 percutaneous mitral valve replacement per annum.	https://hmri.org.au/researchers/suku-thambar
Professor Paul Dastoor	<i>Organic Electronics</i> Carbon based sensor platform which could be used for a number of medtech applications	Organic thin film transistors and the use thereof in sensing applications. For example used: non-invasive glucose monitoring device consists of sensors that integrate glucose oxidase enzyme into an organic, thin film structure capable of sensing blood sugar concentration 100 times lower than commercial glucose sensors.	http://www.newcastle.edu.au/profile/paul-dastoor
Professor Sally Chan	<i>Nursing/Aged Care</i> International comparison study on end-of –life care with Ewha Womans University	Professor Chan has forged ahead with her development of innovative, web-based applications. Her technological solutions are aimed at improving outcomes and accessibility of care for people with schizophrenia, women with post-natal depression and dementia sufferers and their families. Dementia Caregiver Application (app). The app is to help carers learn skills in managing Behavioural and Psychological Symptoms of Dementia (BPSD) in people living with dementia, and provide them with knowledge about dementia and psychological support. It has been developed by the research team. The content is	https://www.newcastle.edu.au/profile/sally-chan

		based on previous psychoeducation programs conducted by the team members and current literature. Nurses, carers, geriatricians, social workers and occupational therapists were involved in content development with technical support from the National University of Singapore. The app has been designed with carers' input in order to reduce interface barriers.	
Associate Professor Darren Shafren	<i>Oncology/Pharmacology</i> Already commercialised – evidence of UON's commercialisation track record	Fifteen years in the making, CAVATAK™ is potentially among the most significant immunotherapy drugs developed for the treatment of melanoma over the past decade. A Phase 2 trial is currently underway in the US with late-stage melanoma patients while a separate trial is assessing the multiple intravenous dosing of CAVATAK™ in patients with tumours including prostate, lung or metastatic bladder cancers. Associate Professor Shafren and his team have since demonstrated the effectiveness of a common cold virus (Coxsackievirus A21) as a potential treatment to kill cancer cells. Viralytics was later formed to commercialise the development of CAVATAK™.	https://www.newcastle.edu.au/profile/darren-shafren http://www.smh.com.au/good-weekend/cold-war-against-cancer-20150421-1mq7lk.html
Professor Adam McClusky	<i>Pharmacology</i> Next generation drugs for epilepsy, cancer and neuropathic pain	Designing next generation drugs for epilepsy, cancer and neuropathic pain. So far the focus has been epilepsy, a disorder where one in three sufferers gain no relief from existing treatments. The goal is creating drugs that do not have the often debilitating side effects. The emerging field revolves around the 518 protein kinases in the body, which are the key signalling proteins behind biological functions. If they malfunction then the body malfunctions.	http://www.newcastle.edu.au/profile/adam-mccluskey
Dr Susan Hua	<i>Experimental Pharmacology and nanotechnology</i> Digitally-precise transport modules for pharmaceutical substances	By using therapeutic targeting, Susan is focussed on making existing and new medicines work better with fewer side effects and toxicity through the use of nanotechnology. Traditional medication can damage healthy cells and tissues as it's non-targeted. With nanomedicine these side effects and potential toxicity is reduced dramatically as the drugs are targeted. This new technology has potential benefits for a range of patients – particularly cancer patients who suffer from serious side-effects from the medication used to treat their conditions. Nanomedicine can also be used in those suffering from long-term or chronic pain or those with acute pain (post-surgical or sprains and strains). A number of projects are currently under IP commercial in confidence stages.	https://www.newcastle.edu.au/profile/susan-hua
Professor Graeme Goodwin	<i>Control Systems</i> Artificial Pancreas	The Australian Artificial Pancreas Program is a national, multi-disciplinary collaboration between experts sharing knowledge, experience and skill sets. The research group comprises engineers from	http://www.newcastle.edu.au/profile/graham-goodwin

		the University of Newcastle and clinicians based at centres across Australia. Its purpose is to develop an artificial pancreas to improve the lives of people living with diabetes. Our primary research focus over the last several months has been the development of a smartphone app to calculate more accurate insulin doses for type 1 diabetes patients.	
Professor Paulette Van Vliet	<i>Physiotherapy/Stroke</i> World's first wearable device designed to improve the arm function of people living with stroke	Our researchers are developing new methods of treating impaired hand and arm function affecting reach and grasp. ArMM allows practitioners and patients to measure motor control to determine the impact and success of the treatment. Measuring motor performance also gives insight into how the brain is generating, monitoring and adjusting coordinated movements. Without good arm function the life of a stroke survivor is extremely limited. Without effective measurement of arm function, research to develop better treatment is difficult. ArMM will not only deliver benefits for current stroke survivors and practitioners – it will enrich future research leading to treatment options for a range of unimagined clinical trials.	http://www.newcastle.edu.au/profile/richard-fletcher
Professor Phil Morgan	<i>Physical activity and nutrition</i> Award winning obesity prevention initiatives for workplace health	SHED-IT is perfect for any man wanting to lose weight and keep it off. The packs are easy to follow and provide guidance on healthy eating and physical activity. Workplace POWER is a low-intensity program that includes an information session, DVD and gender-tailored supplementary resources that provide education and sustainable weight loss information. Both are evidence-based programs that rely on simplifying the weight loss message using language and strategies that appeal to men. These programs can be directly marketed to individuals, workplaces or healthcare practitioners such as GPs, Physiotherapists, Exercise Physiologists and Dietitians.	http://www.newcastle.edu.au/profile/philip-morgan
Associate Professor Richard Fletcher	<i>Family studies</i> Smart-phone based program that allows mobile connection for new and expectant dads	SMS4dads is a new project to keep in touch with dads before and after the birth through their mobile phones. The idea is to send text messages with tips, information and links to other services for new dads. The tips in the texts will help a dad connect with his baby but they will also help him be a support for his partner, the mum. Some texts will remind dad to take care of himself.	http://www.newcastle.edu.au/profile/richard-fletcher
Dr Megan Rollo	<i>Nutrition and dietetics</i> Using smart-phone technology to monitor maternal diet during pregnancy	Using smartphone technology to gather first-hand insights and provide personalised feedback regarding diet during pregnancy. In addition to the digital recording, participants are also measured with a food frequency questionnaire and 24-hour recall survey. This approach is less tedious	http://www.newcastle.edu.au/newsroom/featured-news/smart-snapshot-of-pregnancy-diets

		than a traditional written food diary where people have to weigh and measure their food.	
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