



heart TO HEART

 **THE BAIRD
INSTITUTE**
Applied heart & lung surgical research

MAY 2018

Welcome

We have hit the ground running in 2018, with lots taking place in the first few months of the year. We are really excited to announce our collaboration with a start up company to develop some virtual reality software which will help in the diagnosis and management of patients with Aortic Dissection, putting us at the cutting edge of surgical innovation. You can read more about this joint venture later in the newsletter.

In this edition of *Heart to Heart*, we focus on those community fundraisers who work so hard to support us in our endeavours to raise money for lifesaving heart and lung research. Not only do they raise money for **The Baird Institute**, but they do such a fantastic job at raising awareness of heart related diseases in their community and for this we are so very grateful.

Professor Douglas Baird's vision, to identify problems at the bedside, investigate in the laboratory and apply the solution to future patients, is at the core of what we do as a research organisation. His vision was vast and the journey is ongoing with much more to be done! To all our readers and most especially to all our very generous donors, thank you most sincerely for your support, encouragement and trust. Your support has helped us to fund better training and more research – training and research that will save lives. I hope that you will join us on the next phase of our growth and development – supporting all those facing life threatening cardiothoracic surgical conditions.

Catherine

Catherine Rush
Engagement Manger, The Baird Institute

KENYAN FELLOWSHIP PROGRAM

Recently, we hosted two future participants of **The Baird Institute's Kenyan Fellowship Program** in Australia; Dr Nikita Mehta and Dr Fredrick Mitema from Nairobi, who came to Australia on a "traveling scholarship". While here they attended the annual conference of the **Association of Thoracic and Cardiovascular Surgeons of Asia** in Melbourne, then came to Sydney to visit Royal Prince Alfred Hospital (RPAH) and **The Baird Institute's** research programs and research facilities. During the reception and tour, Dr Mehta and Dr Mitema were joined by the Kenyan High Commissioner from Canberra, Ambassador Isaiya Kabiya, Dr Teresa Anderson, the Chief Executive of Sydney Local Health District and Professor Paul Bannon.



Nikita is the first locally trained female cardiothoracic surgeon in East and Central Africa and is a graduate of the program at The University of Nairobi that **The Baird Institute** helped establish around 5 years ago. Dr Mehta completed her undergraduate and post-graduate training at the University of Nairobi last year, graduating with a Masters degree in cardiothoracic and vascular surgery. She will return to Sydney in 2018/2019 to commence her 2-year surgical trainee fellowship at RPAH under the guidance of Professor Paul Bannon, the Chair of **The Baird Institute**. Nikita hopes this will give her the skills and knowledge to one day set up a self-sustained cardiothoracic centre of excellence in Kenya specialising in clinical care, training and research.



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AT THE CUTTING EDGE OF SURGICAL INNOVATION

The Baird Institute is excited to announce the funding of and collaboration with **Vantari VR** in building a Virtual Reality (VR) tool for surgical planning. The focus is on improving efficiency and outcomes for patients and is the first of its kind globally to be built for use in Aortic surgery. Professor Paul Bannon, Chair of **The Baird Institute**, has been instrumental in driving this collaboration, as the potential of this technology is game-changing to the surgical landscape. Founded by two young doctors, Dr Vijay Paul and Dr Nishanth Krishnananthan, Vantari VR is considered to be one of the leading Australian start-up medical technology companies, having recently completed the HCF Catalyst accelerator program and received funding from the NSW government.



Virtual Reality has made headlines around the world over the last few years and is being used increasingly in healthcare. Clinical trials are already showing that VR can reduce surgical planning time by up to 40% and increase surgical accuracy by 10%. With global powerhouses, such as the Mayo Clinic and Stanford Health Care in the US and The Royal London Hospital in the UK, implementing VR into their research and treatment delivery, this is an important step by **The Baird Institute** on the national and global stage to drive innovation so as to improve patient outcomes.

LAUNCH OF SYDNEY IMAGING

6 April 2018

Sydney Imaging's Hybrid Theatre is a new research and training hub, located in the Charles Perkins Centre (CPC) at the University of Sydney. The site was officially launched in April by Elizabeth Koff, NSW Secretary of Health who stated that "Sydney Imaging is one of Australia's most sophisticated biomedical imaging facilities reserved for research and education – a rarity in the world. It is a boon for the NSW and Australian health research community, and for our broader society which will ultimately benefit from discoveries made there."

Sydney Imaging acts as a hub for the University's faculties and affiliated research institutes including **The Baird Institute**. A significant amount of our research will be carried out there and this will enable us to more rapidly translate evidence into state of the art clinical practice so that we can gain the very best outcomes for patients. Imaging technology allows researchers to study complex biological systems and disease processes non-invasively and provides biological insights into scientific and medical problems that are not available by other means.

Professor Paul Bannon, chair of **The Baird Institute** is also Academic Director of The Hybrid Theatre. The theatre combines a range of biomedical imaging technologies, artificial intelligence, robotics and pioneering surgical practice and training. Image-guided and robotic surgery are used to develop and perfect the complex surgical procedures of tomorrow, resulting in less invasive techniques and better outcomes. Professor Bannon stated at the launch that "the key objective is to sustain medical research and to drive it, specifically the high end or cutting edge translational research!"



From L to R: Dr Michael Spence (Vice Chancellor USyd), Prof. Paul Bannon, Elizabeth Koff, Prof. Fernando Calamante (Director, Sydney Imaging)

RESEARCH REPORT

We have recently made some exciting progress in our research on robotics and Coronary Artery Bypass Grafting (CABG). Professor Michael Wilson has now performed 28 'robotic assisted' coronary artery bypass grafting operations at Royal Prince Alfred Hospital. These operations involve the use of the Da Vinci Surgical System to perform the operation through ports and a small incision on the side of the chest, instead of the traditional incision through the breast bone. Our research focuses on whether this helps speed up the recovery of patients and whether it gets them back to their regular activities faster.

Recently, we carried out our first 'hybrid robotic revascularisation' case - where both the advantages of robotic minimally invasive surgery and stenting are combined to enable treatment of multi-vessel coronary disease. This is a novel approach with the aim of combining the best of both worlds - minimally invasive and fast recovery in addition to the long-term benefit of surgery.

We are currently hard at work preparing two new research studies - one on robotic mitral valve surgery, and another on robotic surgery for lung cancer. These studies will focus on the potential advantages of the robotic system in surgical accuracy and efficiency. We will be partnering with experts in IT and artificial intelligence to look at novel measures of performance.

In June, the robotics team is hosting the cardiothoracic program at the Sydney Robotic Summit. Dr Husam Balkhy from Chicago and Dr Abbas Abbas from Philadelphia will be joining us to discuss some of their research into advanced robotic techniques.

In the upcoming issue of **Annals of Cardiothoracic Surgery**, **The Baird Institute** will publish a 'How To' article describing our technique of performing 'off-pump' coronary artery bypass grafting. This technique represents a gold standard, by combining all-arterial grafts for maximum long-term benefit; a graft configuration capable of achieving complete revascularisation for multi-vessel disease; and performed 'off-pump' to reduce the risk of stroke and other complications. The article is an exciting addition to our work on improving the most common cardiothoracic operation performed!



COMMUNITY FUNDRAISING



Dick Shaw's Dinner Dance 24 February 2018

Mollymook

A wonderful night was had by all at Dick's fundraiser for **The Baird Institute** down at Mollymook on the South Coast in February. 120 people attended, with the majority coming from the Shoalhaven area but also, a number of people made the journey down from Sydney.

Dick had organised a wonderful array of prizes for both the silent auction and the raffle, including a signed All Blacks rugby jersey, a week for two on a barge on the canals in the South of France, several paintings and a bottle of Grange Hermitage. The Mayor of Shoalhaven, Amanda Findlay, opened the evening with a Welcome to Country, while Dick spoke of his desire to give back, following his life saving heart surgery performed by the Chair of our Institute, Professor Paul Bannon. All in all, the night was a great success with the amazing sum of \$14,000 being raised. Thank you Dick – what a fantastic effort!

PAT JOHNSON'S MONTHLY DANCES

In Gulgong

Pat is one of our most hardworking supporters and has volunteered her time tirelessly for **The Baird Institute** for many years. Since having heart surgery 10 years ago, Pat has raised more than \$40,000. She has been hosting monthly old-time dances at Gulgong with all funds raised going to **The Baird Institute**. Pat has dancers that come locally from Gulgong and Mudgee and also from as far away as Dubbo, Wellington and Scone. As well as being a great way to keep fit, the dancers also have a lot of fun, with varied types of old time dances including the progressive barn dance which all levels of dancers can join in on. Pat also organises raffles, lucky door prizes and a lovely afternoon tea on the day.

Pat was recently interviewed on the local ABC radio in Dubbo in relation to her fundraising work for the Institute. The ABC contacted Pat when they heard about the good work she was doing in the community. Thank you Pat, for all your hard work over many years.



Arabian Nights Fundraiser

Natalie Zugec – 2 April, 2018



The latest James Wadland Night of Hearts (JWNOH) event, was held on 2 April 2018. This celebration, held annually on James' birthday, was bigger than usual, due to the fact that this year, James would have celebrated his 40th birthday. James' wife Natalie, put on an amazing Arabian Nights' themed event in her lovely home. While the event keeps James' memory alive, it also raises money for **The Baird Institute's** continuing important research. There was a beautiful spread of Lebanese food and throughout the night belly dancers and drummers entertained us all.

Dr Michael Seco updated those present on research at The Institute particularly in the area of Aortic Aneurysms, a condition that can take loved ones from us out of the blue. Michael explained how some researchers with **The Baird Institute** are looking into the gene responsible for building our blood vessels, because understanding how genes influence aortic aneurysm development, will help identify a cure for this devastating blood vessel anomaly.

A big thank you to Natalie for her tireless fundraising for **The Baird Institute**. An extraordinary \$9000 was raised at the JWNOH event this year. We are ever so grateful not only for Natalie's efforts, but also for all the attendees on the night who have contributed so much to life-saving heart research. We thank you all for your generosity.



Carol & Gale Radford

Creative Generosity



In 2009, Carol Radford underwent a successful operation to repair a mitral valve. From the time of her operation, Carol decided she wanted to give back to research. Since that time, she has been making gifts to sell at a variety of pop-up stores held at community fairs all over Sydney and now also on the Central Coast.

Carol busies herself all year making gifts for her Christmas stalls. In 2017, she held two stalls; one in Terrigal and one in Bateau Bay on the Central Coast of NSW. Carol and her husband Gale had all sorts of items up for sale – Christmas decorations, door stops, hand knitted dolls, butterfly wands, drink coasters, money socks, to mention just a few. Over the past 8 years, Carol (ably assisted by her husband Gale) has raised close to \$9000. A big thanks to both Gale and Carol for their constant support.



NURSES CONFERENCE

Saturday 15 September, 2018

Three years ago, **The Baird Institute** held an exciting one-day conference for nurses working with heart and lung surgical patients. In 2018, a second conference is scheduled for Saturday 15 September with the theme of 'Connected Care'. Nurses caring for heart and lung surgical patients work in emergency departments, intensive care and operating theatres, acute care wards and specialty rehabilitation programs. This one-day conference will bring together surgeons, nursing and medical researchers, educators and clinical experts to discuss advances in surgery, the use of robotics, research methods that can be translated to 'at the bedside' care underpinned by practical workshops to develop cardiac and lung surgical nursing expertise. Getinge, along with other industry support, will highlight their contribution to increasing the survival and quality of life for patients and families after heart and lung surgery.

The Kerry Packer Education Centre will be the site for the event with additional meetings, catering and industry support in the heritage 'Nurses Home' Building 72. Registration details will go live in June 2018 at <http://bairdinstitute.org.au/2nd-heart-lung-nurses-conference-2018/> and we look forward to welcoming nurses from tertiary and metropolitan hospitals, public and private, across NSW and Australia. Prepare to be challenged, amazed and energised at this **Baird Institute** conference.

Vale

MR JIM KELBURN SCOTT

Jim Scott from Dubbo in the Central West of New South Wales, passed away in September 2017. Jim was a longstanding and generous supporter of **The Baird Institute** with his first donation having been made back in 2009. Our thoughts are with Jim's wife, Joan and their family as they come to terms with their loss.



MR BARRY WILLIS

Another generous donor of **The Baird Institute**, Barry Willis, also passed away in September 2017. Our condolences go to Barry's wife, Penny, and their children and grandchildren and we thank them most sincerely for their kind support of **The Baird Institute** over the last few years



Professor Douglas Baird AM: A Truly Great Australian.
1940 - 1995

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