



Medical Devices Fund

2017



Health

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A Message from the Minister

NSW is leading the way in health and medical research innovation. We are home to many internationally recognised medical device companies and more than half the medical technology industry in Australia is headquartered here. The medical technology sector is not only a significant contributor to the State's economy and job growth, it is creating real improvements in the treatment of patients.

Between 2011 and 2015, the NSW Government has supported health and medical research at an unprecedented level, investing over \$900 million. A further \$159 million over four years was committed in 2015, taking the total investment since 2011 to over \$1 billion.

The Medical Devices Fund drives the development and commercialisation of medical devices and related technologies in NSW. The Government is hopeful that our grant recipients will continue on and establish businesses that will become companies on the world stage.

Many of the previous recipients are well on their way globally. Sound Scouts Pty Ltd has created a mobile game to check a child's hearing before their first year of school. This year, Sound Scouts won the best new Health and Wearable Technology award at the SXSW Accelerator competition in Austin, Texas. This competition has launched some of the best known tech brands in the world including Twitter, Siri and Pinterest.

Another success story is Saluda Medical Pty Ltd which has developed an implantable device for chronic pain. Saluda Medical recently raised \$AU53 million in venture capital from the US. Their technology has already changed the lives of over 47 patients in NSW and with this funding, will go on to improve the health of thousands more.

This year's grant winners offer NSW a new range of exciting and pioneering technologies with the potential to not only transform the delivery of health care, but to deliver life-saving benefits for patients and comfort for their families. These devices are all ground breaking in their innovative solutions to real-world health problems.

I am grateful to Professor Mary O'Kane, NSW Chief Scientist and Engineer, and the members of the Expert Panel who have provided outstanding leadership throughout the evaluation process for the NSW Medical Devices Fund in 2017.

I would also like to congratulate the recipients of funding this year. Your efforts, enthusiasm and commitment are creating real change and improving the lives of patients globally.

Hon Brad Hazzard MP
Minister for Health
Minister for Medical Research



A Message from the Chair

The Medical Devices Fund is now in its fifth round and has proved to be an incredibly valuable program in developing and building innovation in NSW. It provides the critical support for NSW organisations to progress game changing medical devices into the health system and improve patient outcomes within the state and more broadly.

The program fosters collaborative links between NSW med-tech companies, research hubs and local and international investors. It also aims to streamline the clinical assessment of new medical devices to encourage greater uptake of innovative technologies within the NSW health system.

A clear priority for the Panel was that applicants worked closely with clinical experts across NSW to ensure the medical devices they were developing would practically address contemporary problems.

The task of assessing applications is never easy and I want to thank the members of the Expert Panel: Dr Bob Frater AO, Professor John Mattick, Mr Neville Mitchell, Dr Greg Keogh and Mr Michael Still. I also wish to thank the sub-committee, who assisted with the shortlisting and the assessment of the applicants and the staff of the Office for Health and Medical Research who provided secretariat support.

On behalf of the Medical Devices Fund Expert Panel, I wish to congratulate the recipients of this year's grants. Your inspiring and inventive work will have an important and long-lasting impact on both the State's health system and the wider community.

Mary O'Kane

NSW Chief Scientist & Engineer



Antibiotic resistance in Sexually Transmitted Infections (STIs) is a growing public health issue. STIs have the potential to become the first incurable bacterial infections since the introduction of antibiotics. To address this looming issue, Speedx has developed the ResistancePlus product line.

These innovative diagnostic tests detect bacterial infection and genetic markers for antibiotic resistance in a single test.

The SpeedX ResistancePlus product line

The benefits of combining the testing of antibiotic resistance and detection of sexually transmitted infections include:

- (i) patients receiving the correct treatment
- (ii) expedited notification of sexual partner(s)
- (iii) reduced health care costs
- (iv) halting the spread of antibiotic resistant infections
- (v) maintaining the efficacy of antibiotic treatment (antibiotic stewardship)

SpeedX has commercialised the first test worldwide which simultaneously detects a sexually transmitted infection (*Mycoplasma genitalium*) together with antibiotic resistance. This test enables complex diagnostic information to be obtained from a single, cost-effective, and rapid test, guiding treatment decisions and supporting the antibiotic stewardship of important front-line drugs. Already the benefits are being seen in clinics accessing the tests, with demonstrated improvements in patient cure rates and reduced infection times.



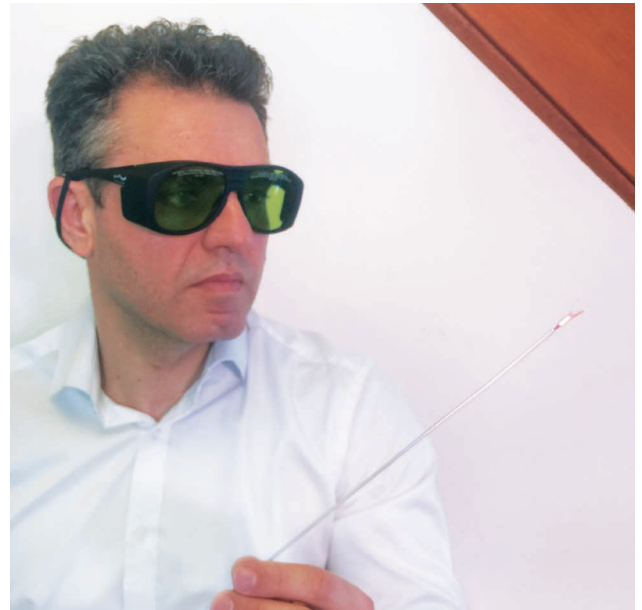
Company/Organisation Name	SpeedX Pty Ltd
Public/Private Company	Private
Stage/Category	Early and Mid stage, In Vitro Diagnostic Device, MedTech
Website	www.plexpcr.com
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Focal therapy (or targeted therapy) is a well-established technique of targeting and treating cancerous lesions throughout the body. Focal treatment has been used for years for brain, lung, liver, bladder, pancreas and kidney cancers. In the last 4 years more powerful MRI (magnetic resonance imaging) machines have become available and for the first time clinicians can visualise prostate cancer. Focal Laser Therapy for prostate cancer continues this development. ProFocal-Rx is able to treat the tumour as clinicians are able to see the tumour with precision. ProFocal-Rx allows more than 30% of prostate cancer patients to have minimal invasive therapy and preserve their prostate gland.

ProFocal-Rx laser delivery system

ProFocal-Rx is a patented laser delivery system that is introduced into the prostate gland with a needle cannula. The laser delivery unit is introduced through this cannula into the proven cancerous area and ProFocal-Rx allows for real time interactive treatment ensuring that the cancer is destroyed. The treatment is performed as a quick outpatient procedure with the patient going home the same day. The side effects of the treatment are less than the diagnostic biopsy interventions that are currently used.

ProFocal-Rx allows men with newly diagnosed prostate cancer to be treated without the risk of urinary incontinence whilst also preserving erections, ejaculation and fertility.



Company/Organisation Name	MedLogical Innovations Pty Ltd
Public/Private Company	Private
Stage/Category	Early stage, MedTech
Contact	Dr Celi Varol
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Baymatob
Pty Ltd



Due to the high rates of unnecessary caesarean sections performed globally there has been a push to reduce interventions and increase rates of normal vaginal delivery.

Oli™ allows real time observation of uterine activity, movements, exertion, maternal/fetal wellbeing and how they correlate to progression of labour. The device is a non-invasive patch capable of remotely monitoring pregnancy and labour.

This improves on current monitoring methods as it will show:

- A woman's ability to progress to a normal delivery,
- Early identification of the need to intervene and the performance of those interventions,
- Expected time frames for delivery or prompt identification of failure to progress.

Oli™ has the potential to transform obstetric monitoring and management. It provides a way to identify how a woman's pregnancy and labour is progressing. This will give clinicians and hospital staff a more definitive method of:

- Differentiating between slow progression of labour and complications requiring intervention,
- Identifying complications early and tracking performance of interventions,
- Scheduling required resources at the time they are required.

Oli™ is expected to improve patient outcomes and result in savings to the health system due to reduced caesareans and other interventions.



Company/Organisation Name	Baymatob Pty Ltd
Public/Private Company	Private
Stage/Category	Early stage, MedTech
Website	www.baymatob.com
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Western Sydney Local Health District



Health
Western Sydney
Local Health District

Hypertension is a strong risk factor for cardiovascular disease, which is the leading cause of death worldwide. 28% of adults in NSW have hypertension, however up to one in eight patients fail to achieve blood pressure control despite multiple medications.

Mu Catheter

Western Sydney Local Health District has developed the Mu Catheter, a new generation microwave renal artery denervation system for treating hypertension. The device, which is introduced into the renal artery, ablates hyperactive renal nerves that course around the artery. These nerves are responsible for driving high blood pressure in patients who do not respond adequately to medications.

Clinically available renal artery denervation devices heat using electrical current, which has limited depth of penetration and cannot be applied circumferentially as it injures the renal artery wall. As many nerves can potentially escape ablation, these devices produce inconsistent denervation and clinical efficacy.

In contrast, the Mu Catheter radiates microwaves into the tissues surrounding the renal artery. These provide a deep and circumferential ablation to consistently reach more renal nerves while avoiding injury to the renal artery which is cooled and protected by blood flow. This is achieved through the Mu Catheter's unique microwave emitting antennae and centering mechanism.

The device is expected to improve patient outcomes and reduce the burden on the health system through better control of hypertension and cardiovascular disease prevention.



Company/Organisation Name	Western Sydney LHD
Stage/Category	Early stage, MedTech
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Medical Devices Fund Expert Panel



Professor Mary O'Kane AC

Professor Mary O'Kane is the NSW Chief Scientist and Engineer and also a company director and Executive Chairman of Mary O'Kane & Associates Pty Ltd, a Sydney-based consulting practice. She is also Chair of the CRC for Spatial Information and the Space Environment Management CRC and is a Director of Capital Markets CRC and Business Events Sydney.

Professor O'Kane was Vice-Chancellor of the University of Adelaide from 1995-2001. She is a former Chair of the board of the Australian Centre for Renewable Energy, a former member of the Commonwealth's Review of the National Innovation System, the Australian Research Council, the Co-operative Research Centres (CRC) Committee, the board of FH Faulding & Co Ltd and the board of CSIRO. She is a Fellow of the Academy of Technological Sciences and Engineering and an Honorary Fellow of Engineers Australia.



Mr Michael Still

Mr Michael Still has enjoyed a 30 year career in investment banking, corporate finance, equity investment and infrastructure in Australia and globally.

As well as being engaged in a broad range of banking and business roles including M&A, reconstruction and corporate advisory, he has been responsible for the leadership of infrastructure and property companies and for projects of many types. These have included Public Private Partnerships, social infrastructures as well as major economic infrastructures. He has significant experience in project and long term financing and direct ownership.

Over a long period Michael has advised governments, offshore corporates and investment funds on strategic matters and ownership and financing issues across many industries and asset types. He brings to bear significant experience in dealing with equity investors and debt financiers globally.

Michael is Chairman of the South Eastern Sydney Local Health District, board member of the New South Wales Cancer Institute and is a Committee Member of the Medical Devices Fund Expert Panel (NSW Govt). He is also a director of the Silverchain Group and the Silverchain Foundation. He holds a Masters in Business Administration from the Macquarie Graduate School of Management.



Dr Greg Keogh

Dr Keogh is a Senior Staff Specialist Surgeon at Sydney's Prince of Wales Hospital, and a Fellow of the Royal Australasian College of Surgeons (FRACS). His clinical interests include the management and treatment of gastrointestinal cancer, particularly in the upper gastrointestinal tract.

He is currently surgical director of the Prince of Wales Hospital Operating Theatres. He also currently fills the role of Clinical Stream Director for Surgery, Anaesthetics and Peri-operative Medicine for the South East Sydney Area Health Service.

His other roles include National Director of the CPMEC Australian Curriculum Framework for Junior Doctors Project, and a senior medical adviser to HETI (Health Education Training Institute). He is a member of the NSW Surgical Services Taskforce, and the NSW Acute Care Taskforce.

He has been a former Director of Clinical Training at the Prince of Wales Hospital, chair of the Postgraduate Medical Council of NSW and state director of basic skills courses for RACS.



Mr Neville Mitchell

Mr Neville Mitchell has had a 30 year career in Medical Devices and the Accounting Profession.

He was CFO & Company Secretary of Cochlear Limited for over 25 years before retiring in 2017. Cochlear Limited is the world leading cochlear hearing implant company and is headquartered in Sydney Australia. Cochlear grew from a listing valuation of \$125m in 1995 to an international company with a market capitalisation of over \$8bn at his time of leaving.

Neville is a Non-Executive Director of Sirtex Medical Limited (ASX:SRX): Osprey Medical (ASX:OSP) and a Director of The Board of Tax and the South East Sydney Local Health District.



Dr Bob Frater AO

Dr Bob Frater AO is one of Australia's most respected scientists. He has researched electronics, telecommunications, radio astronomy instrumentation, electro-acoustics and biomedical devices.

In 1996, he was made an Officer of the Order of Australia for his contributions to science in Australia and internationally. His career went from industry (AWA, OTC, Ducon) to academia (Electrical Engineering at Sydney University), then to CSIRO from Chief of Radiophysics Division to Deputy Chief Executive, and then to ResMed as VP Innovation.

He is currently Chief Technology Officer for Innovation Capital and an Adjunct Professor at Macquarie University. He is a member of a number of advisory committees.

His CSIRO achievements included construction of the highly successful \$50 million Australia Telescope at Narrabri and sponsorship of the WLAN developments by his former students from University of Sydney. He is a Fellow of the Australian Academy of Science and a Fellow of the Australian Academy of Technological Sciences & Engineering.



Professor John Mattick
AO FAA FAHMS FRSN HonFRCPA

Professor John Mattick is the Director of the Garvan Institute of Medical Research. He spent much of his career at the University of Queensland, where he was Foundation Director of the Institute for Molecular Bioscience and the Australian Genome Research Facility.

He is best known for showing that most of the human genome is not junk, and was recently named by NHMRC as one of the all-time high achievers in Australian health and medical research. His honours and awards include the inaugural Gutenberg Professorship of the University of Strasbourg, the Order of Australia and Australian Government Centenary Medal, Fellowship of the Australian Academy of Science and the Australian Academy of Health & Medical Sciences, Honorary Fellowship of the Royal College of Pathologists of Australasia, the International Union of Biochemistry & Molecular Biology Medal, the Human Genome Organisation Chen Award for Distinguished Achievement in Human Genetic & Genomic Research, and the MD Anderson Cancer Center Bertner Memorial Award for Distinguished Contributions to Cancer Research. He has overseen the development of a number of startup enterprises, including most recently one of the world's first clinical genomics companies.

MEDICAL DEVICES FUND

The NSW Health and Medical Research Strategic Review recommended that NSW be enabled to contribute to the discovery and application of new treatments and diagnostic techniques and devices that will be major contributors to health reform into the future. The NSW Government established the Medical Devices Fund (MDF) to help encourage and support investment in the development and commercialisation of medical devices and related technologies in NSW.

The key objective of the MDF is to promote new and innovative medical devices and technologies within NSW that may have a global benefit.

Broadly, the MDF aims to:

- Provide support to individuals, companies, public and private hospitals, medical research institutes, universities, other public sector research organisations, and the medical devices industry, to take local innovation to market; and
- Increase the uptake of NSW medical devices by the health system where they are cost effective and contribute to improved patient outcomes.

OFFICE FOR HEALTH AND MEDICAL RESEARCH

Health and medical research play a vital role in the continued growth and better health of our community and economy. From increased life expectancy and new treatments for disease, and technologies that change the way we live and work, to addressing environmental challenges – scientific research and the knowledge it generates affects us all.

The Office for Health and Medical Research (OHMR) plays a crucial role in supporting the State's leading health and medical research efforts. OHMR helps support the broad range of outstanding health and medical research efforts being carried out in NSW.

OHMR works with the health and medical research communities, the higher education sector and business to promote growth and innovation in research to achieve better health and environmental and economic outcomes for the people of NSW.

