

## YOUNG INVESTIGATOR OF THE YEAR

*This article was first published in Health Spirit*



*Dr James Otton*

Dr James Otton, St Vincent's trained consultant physician and cardiologist has won the 2012 'Young Investigator Award', as presented by the Society of Cardiovascular Computed Tomography (SCCT).

This award is open to researchers who are near completion of their PhD, and is open to submissions from across the globe. Inspirational then, that James is one of the young researchers who have achieved this accolade, along with just two other recipients selected from the National Institute of Health (NIH) and Cambridge University. Of this honour James says "It felt good. Research is difficult, you never know what results you're going to get and it's very nice to have recognition when things go well".

An honour truly deserved, James has accomplished this amazing achievement after dedicating several years to gaining niche expertise and conducting research in cardiac MRI imaging at Kings College in London. Having spent a year at the College partly funded by the St Vincent's Clinic Foundation Travel Grant, James produced a study in 'Four-Dimensional Image Processing of Myocardial CT Perfusion for Improved

Image Quality and Noise Reduction'. This means that James has developed a world-first procedure resulting in clearer and more precise heart imaging with myocardial CT perfusion.

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Myocardial CT perfusion is a new method that allows heart arterial blockages to be imaged with a CT scanner while at the same time, assessing the effect the blockage is having on blood flow – something that currently requires multiple testing. In simple terms, James' research and expertise means faster, more accurate diagnosis and reduced down-time for the patient. No wonder then, that he has won this prestigious award.



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Excited about the prospects this award winning research brings, James said "it is very exciting, it's going to be a widely used technique in the next few years and I hope that my research will make it even more useful".

And with a very limited talent pool of Cardiac MRI and CT specialists currently available in Australia, our Young Investigator of the Year will undoubtedly bring much needed expertise to the delivery of cardiac care provision in Australia.

Congratulations James!

*James is currently completing his PhD in collaboration with St Vincent's Hospital and the Victor Chang Cardiac Research Institute.*

## THE 2012 SANDRA DAVID ORATION

### "More Funding for Australian School Education – A Luxury or a Necessity?" – David Gonski AO, AC

Access to education has always been the great equaliser. David Gonski, who chaired the 2011 review of funding for schooling – known as the 'Gonski Review' – spoke on this important issue as he delivered the 2012 annual Sandra David Oration.

The Oration, held on 25 October 2012, and hosted by St Vincent's Clinic Foundation, saw more than 120 attendees at what quickly became standing room-only.

To find out more about the Gonski Review visit: [www.betterschools.gov.au/review](http://www.betterschools.gov.au/review)

For further information about Sandra David visit: [www.clinic.stvincents.com.au/whats-happening/events](http://www.clinic.stvincents.com.au/whats-happening/events)

Mr Gonski spoke about how education is not a luxury, but an investment in the future which is necessary if our country is to grow and prosper.

Michelle Wilson, Executive Director of St Vincent's Clinic, said the topic was hugely important to the work of the Foundation. "Education and research can be closely linked, in that by supporting both education and research we enrich our country, provide opportunities and maximise peoples' potential."



*David Gonski*

Mr Gonski spoke of the need for unity across the education sectors, and called for improved government funding for all sectors. He quoted Albert Einstein, saying "all that is valuable in human society depends upon the opportunity for development accorded the individual."

## UNEXPECTED RESULTS MAY POINT TO A VIAGRA-LED HEART DONOR REVOLUTION – Professor Peter Macdonald



*Professor Peter Macdonald*

Research doesn't always give the desired results but it can lead to exciting new directions. This was the case for Professor Peter Macdonald's research *Esmolol cardioplegia as an alternative to hyperkalaemic cardioplegia: Using a rodent model of brain death to assess a novel preservation solution in cardiac transplantation*, which was the recipient of the 2012 Tancred Trust Research Grant.

Traditionally when transporting a heart between donor and recipient, the heart is stored in a solution with a high concentration of potassium. The potassium can cause damage to the heart, and so Professor Macdonald's research developed a new preservation solution, based on the compound *esmolol*, with the aim of minimising damage.

While the *esmolol* solution ultimately proved unsuccessful, in testing a range of additives to the solution, Professor Macdonald discovered *sildenafil* (commonly known as *viagra*) was extremely effective as a preservation agent.

Tests with *sildenafil* led to the exciting possibility of extracting donor hearts from patients who were not brain dead, as is currently the requirement, but had instead suffered circulatory death. This possibility is important in light of the current donor heart shortage, and is the

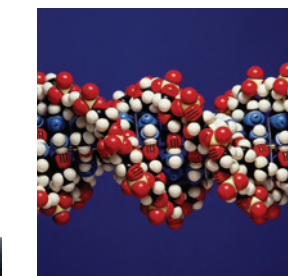
subject of Professor Macdonald's 2013 annual research grant.

In this new method, the heart would be extracted after circulatory death and reactivated using a machine, allowing for significantly increased use of hearts previously considered 'marginal'. *Ex vivo* animal testing proves successful, there is the possibility of a human transplant using this method as early as 2014.

If not for *sildenafil*, which activates signalling pathways in the heart and prevents the breakdown of the molecule that regulates blood flow, the research team may not have come across this new approach to donor organ extraction.

This case highlights the interconnectedness and importance of research funded by the Foundation. Despite initially disappointing results, Professor Macdonald's research may well lead to a revolution in the use of marginal donor organs.

## Supporting Excellence in Clinical Research



May 2013

Welcome to the 2013 edition of the St Vincent's Clinic Foundation newsletter.

This year the Foundation comes of age as we mark 21 years of supporting the Clinic at the Darlinghurst Campus.

I am proud of the Foundation's achievements: during this time we have allocated grants worth nearly \$11 million to more than 250 projects that contribute directly to the Clinic's mission of excellence in research, training and patient care. I would like to thank the continued generous support of our donors, without whom this tremendous accomplishment would not be possible.

I would also like to thank and acknowledge the dedication and professional skill of our researchers; and the support and fine work of the Trustees of the Foundation.

The Trustees provided sound governance as the Foundation became a Public Ancillary Fund in 2012. You can read more about this transition and what it means for the Foundation in the article inside this edition. In this issue we also report on some exciting results that have come out of the 2012 research grants; announce the 2013 grant recipients; and farewell Peter Ferris AM, who was a great supporter of the Foundation since its inception in 1992, and will be sadly missed.

The support of the St Vincent's community continues to fill us with hope and allows the Foundation to fund the vital research that underpins excellence in clinical care. I am pleased to announce we can now accept donations through the website, making it easier for supporters to play a part in our important work that touches the lives of so many.

We look forward to a bright future together with our supporters and researchers.

Yours sincerely

MR A E HARRIS AC  
President, St Vincent's Clinic Foundation

## HOW YOU CAN PLAY YOUR PART – ST VINCENT'S CLINIC FOUNDATION

All donations are tax deductible and can be made in a number of ways.

- An annual donation of \$200
- An annual donation/one off donation of \$ \_\_\_\_\_
- St Vincent's Clinic Foundation has also developed the opportunity for donors to nominate the Foundation in their Estate. Please call us for further information.

A cheque made payable to St Vincent's Clinic Foundation for the amount of  \$200 or  \$ \_\_\_\_\_

Please debit my Credit Card. Nominate Card: Bankcard / Mastercard / Visa

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Please send to: St Vincent's Clinic Foundation, 438 Victoria Street Darlinghurst NSW 2010

If you are not already a Friend of St Vincents Clinic Foundation (no charge) and would love to become a Friend please tick the box. Friends will receive an invitation to the AGM, Foundation functions, copies of "Proceedings" and other material related to the Foundation.

If you do not wish to receive this material, please tick the box.

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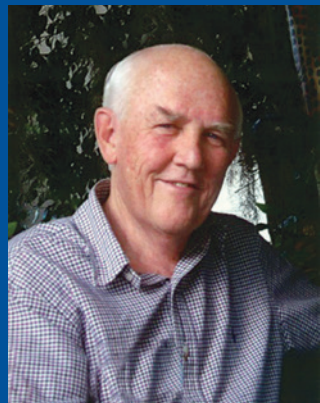
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Mr Peter Ferris

## VALE PETER FERRIS

Mr Peter Ferris AM was the inaugural Chairman of St Vincent's Clinic, and a founding trustee of St Vincent's Clinic Foundation. His professional relationship with the Campus lasted for more than 30 years, and his contributions have been recognised by the Church and the State.

Peter is sadly missed.

## THELMA GRIEG BEQUEST

The St Vincent's Clinic Foundation has received a generous bequest from the Estate of the late Thelma Grieg. This money is to be used for cancer research grants.

## THE 2013 ST VINCENT'S CLINIC FOUNDATION RESEARCH GRANT RECIPIENTS

### SVPHS Ladies' Committee Sr Mary Bernice Research Grant \$100,000

A/Prof Rajesh Subbiah – Victor Chang Cardiac Research Institute  
*"Genetic determinants of electrocardiographic parameters"*

### Adult Stem Cell Research Grant \$100,000

Dr Sam Milliken – St Vincent's Hospital – Centre for Applied Medical Research  
*"Use of fibroblast derived stem cells to define the role of GATA1 and p53 in normal haematopoietic and leukaemic stem cells with trisomy 21"*

### Tancred Research Grant \$67,000

Dr Ann McCormack – Garvan Institute of Medical Research  
*"Insulin signalling pathway in cancer tissue of insulin-resistant, insulin-sensitive and type 2 diabetic humans"*

### K&A Collins Cancer Grant \$50,000

A/Prof Phillip Stricker – St Vincent's Private Hospital Sydney – St Vincent's Prostate Cancer Centre  
*"Reducing unnecessary biopsies and missing less prostate cancers on biopsy through the use of MRI, PCA-3 & PHI in men with an elevated PSA"*

### Thelma Greig Cancer Grant \$50,000

A/Prof Anthony Dodds – St Vincent's Hospital  
*"MicroRNA-155: A regulator of cell survival and maturation in Acute Myeloid Leukaemia"*

### Di Boyd Cancer Grant \$30,000

Prof Andrew Carr – St Vincent's Hospital – Centre for Applied Medical Research  
*"Immune responses to HPV-16 E6 and E7 and correlation with anal cellular abnormalities in homosexual men: Study of the prevention of anal cancer (SPAN) Immunology Substudy"*

### Froulop Research Grant \$30,000

Dr Paul Jansz – St Vincent's Hospital  
*"Use of point of care coagulation testing to guide the haemostatic management of patients on Extracorporeal Membrane Oxygenation (ECMO)"*

### Annual Grant 1 \$30,000

Dr Kersten Koelsch – St Vincent's Hospital – Centre for Applied Medical Research  
*"Evaluation of using fine needle aspiration biopsies from peripheral lymph nodes for the quantitation of HIV reservoirs"*

### Annual Grant 2 \$30,000

Prof Peter Macdonald – Victor Chang Cardiac Research Institute  
*"Pharmacological activation of the Nitric Oxide / soluble Guanylate Cyclase / Protein Kinase G Signalling Pathway as an approach to minimise Ischemia reperfusion damage to the donor heart"*

### Annual Grant 3 \$28,000

A/Prof Debbie Marriott – St Vincent's Hospital – Sydpath  
*"Time is of the essence: Rapid identification and speciation of staphylococci from blood cultures using a new polymerase chain reaction technique"*

### Annual Grant 4 \$30,000

Dr Mark Danta – St Vincent's Hospital – St Vincent's Clinical School  
*"MIC 1 in liver cachexia (MiLC) study - pilot study"*

### Annual Grant 5 \$30,000

Dr Angela Chou – St Vincent's Hospital  
*"Biomarkers of pancreatic cancer phenotypes: with emphasis on aberrant cell cycle regulation"*

### Annual Grant 6 \$30,000

Prof Richard J Epstein MD PhD – St Vincent's Hospital – The Kinghorn Cancer Centre  
*"Genetic engineering of cancer-resistant human cells by altering the CpG content of the TP53 tumour suppressor gene"*

### Annual Grant 7 \$15,000

Prof Andrew Carr – St Vincent's Hospital – Centre for Applied Medical Research  
*"Rosuvastatin versus protease inhibitor switching for Hypercholesterolaemia in HIV-infected adults"*

### Multidisciplinary Patient Focussed Research Grant 1 \$25,000

Ms Dianne How-Chow – St Vincent's Hospital – IBAC Clinic (SVH) / St Vincent's Clinical School  
*"Nurse co-ordinated multidisciplinary hepatocellular cancer (HCC) screening program"*

### Multidisciplinary Patient Focussed Research Grant 2 \$25,000

Ms Claire Reynolds – St Vincent's Hospital  
*"Quality of life post Extracorporeal Membrane Oxygenation (ECMO)"*

### Multidisciplinary Patient Focussed Research Grant 3 \$25,000

Ms Annette Polizois – St Vincent's Hospital  
*"Psycho educational intervention designed for post allogeneic bone marrow transplant patients and their care givers aimed at improving quality of life in the year post transplant"*

### Multidisciplinary Patient Focussed Research Grant 4 \$25,000

Ms Elizabeth Taylor – St Joseph's Hospital  
*"Multidisciplinary care of people with Parkinson's Disease across the stages"*

### Travelling Fellowship \$10,000

Dr Tim Small – St Vincent's Hospital  
*"Orthopaedic Fellowship with Dr Andrew Williams – Chelsea & Westminster Hospital, London, UK and Orthopaedic Fellowship with Dr Willem Van Der Merwe – Grootte Schuur Hospital, Cape Town, South Africa"*

### 2012 Clinical Excellence Award – Medical \$1,500

Dr James Otton – St Vincent's Hospital – Honorary Research Fellow, Cardiology Department/Clinical School

### 2012 Clinical Excellence Award – Nursing \$1,500

Mr Robert Kent – St Vincent's Hospital – Clinical Research Manager, Cancer Services

### 2012 Clinical Excellence Award – Scientist \$1,500

Ms Audrey Adji – St Vincent's Clinic – Scientific Officer, Cardiovascular

### 2012 Clinical Excellence Award – Emerging Researcher \$1,000

Ms Asmara Jammali-Blasi – NRI/Sacred Heart Centre – Research Assistant/State Coordinator T3 Project

### 2012 Clinical Excellence Award – Non Medical Staff/Teaching

St Vincent's Clinic Vascular Laboratory

## DONATE ONLINE

Did you know you can now donate to the Foundation online? It's a fast, secure and easy way to donate, and we will email you a receipt straight away.

Visit [www.stvincentsclinic.com.au](http://www.stvincentsclinic.com.au) and look for the button picture below to help support our important research.

[DONATE ONLINE NOW](#)

## GOVERNANCE AT ST VINCENT'S CLINIC FOUNDATION

In 2012 St Vincent's Clinic Foundation became a public ancillary fund, after changes to government regulations. This means the Foundation now has its own ABN, tax exempt status and deductible gift recipient status, which allows your donations to be tax-deductible. This change will make the process of donating to the Foundation simpler and its administration easier.



## LIFE-SAVING OUTCOMES: PREVENTING VENOUS THROMBOEMBOLISM IN HOSPITALISED PATIENTS – Jed Duff

Airlines are very good at telling customers about the risks of deep vein thrombosis (DVT): warnings and preventative tips are included on the back of your ticket, in the safety video, and online when you book a flight. Until recently, hospitals were not as good at getting this message across.

Around 5,000 patients die in Australia each year from preventable venous thromboembolism (VTE), which is the collective term to describe DVT and pulmonary embolism. Now, thanks to research by a multidisciplinary team of researchers, funded by a St Vincent's Clinic Foundation grant in 2010, this number is set to decrease dramatically.

"There is 20 times more risk of developing VTE in hospital than by flying," says Mr Duff, the lead researcher. "But traditionally it has been a silent issue, because blood clots were forming after patients left hospital, and doctors weren't making the link."

Mr Duff's research was a combination of system changes, education for

clinicians and preventative treatment for patients. His team developed a tool to help doctors and nurses assess the likelihood of a patient developing VTE, after consulting with clinicians and whittling down existing guidelines to better match the typical scenarios that occurred at St Vincent's Private. High risk factors include:

- Genetic predisposition and family history
- Clots forming post-surgery
- Lack of movement from being in bed

After the twelve-month trial there was a 25% improvement in compliance in providing preventative measures. Mr Duff worked with a health economist to model projected clinical and economic outcomes. The results for a twelve-month period were impressive:

- 512 fewer hospital bed days
- 13 fewer deaths
- A saving of \$245,439



Jed Duff

"VTE is the most preventable cause of inpatient death, accounting for around 10% of deaths. It kills more people each year than breast or prostate cancer," says Mr Duff.

"Our whole research team is very grateful to St Vincent's Clinic Foundation. We have received three grants from the Foundation for various parts of this research project, and this research offers long-term savings for the health system, as well as saving lives."

## 'GENE SWITCH' THE FUTURE FOR LEUKAEMIA TREATMENT – Professor David Ma

They used to be considered 'junk' DNA, but now two parallel research projects, funded through the Foundation in 2012, have identified microRNA 'gene switches' which may lead to better diagnosis and treatment of acute myeloid leukaemia.

Professor David Ma's identification of microRNAs that predict treatment success in patients with acute myeloid leukaemia and A/Professor Anthony Dodd's role of microRNAs in haematopoietic stem cell differentiation and acute leukaemia have had impressive results identifying sub-types of acute leukaemia with unique microRNA signatures. These signatures act as gene switches, controlling how leukaemia cells survive and mature.

Professor Ma's team knew that the certain types of leukaemia resulted in over-production of the microRNA

miR-155, but no-one had looked at how many miR-155s there were in normal cells. The team did this research, and compared their findings to those of leukaemia patients, establishing a potential new diagnostic tool.

A/Professor Dodd's team did similar research with a different microRNA called miR-10a. Being able to make a diagnosis at a genomic level means treatments are able to be more finely tailored. The next step is to replicate these studies on a larger scale, and conduct lab work to see how different agents acting on the microRNA affect the leukaemia cells.

The potential application of this research might lead to a whole new way of treating patients with cancer. A prime example is acute promyelocytic



Professor David Ma

leukaemia: the discovery of two non-chemotherapy agents has dramatically enhanced the survival rate of these patients from 20% to 80%, as well as improving their quality of life.

With a 2013 Foundation grant set to conduct further research on the role of miR-155, we look forward to seeing what these exciting researchers discover next.