



Victor Chang
Cardiac Research Institute



**Finding cures for
cardiovascular disease
through world class
medical research**

Annual Report 2016



17.5m

Every year, over 17.5 million people worldwide die from cardiovascular disease



1/3

One in three Australians die of cardiovascular disease



40/day

Every day 40 Australians die of a heart rhythm disorder



10min

Every year around 54,000 Australians suffer a heart attack. That's one every 10 minutes!



4/wk

Congenital heart disease kills four babies per week in Australia



No.1

Heart disease is the single biggest killer of Australians



3x

Three times more women die of heart disease than breast cancer in Australia



F/M

Many women have different heart attack symptoms to men like nausea, indigestion and shoulder aches

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About Us

The Victor Chang Cardiac Research Institute is one of the most respected heart research facilities in the world. It is dedicated to finding cures for cardiovascular disease. Renowned for the quality of its research, the Victor Chang Institute develops innovative transplantation techniques and conducts complex molecular and genetic analyses to make world class discoveries. A global centre-of-excellence, it integrates advanced stem cell research, regenerative medicine and bio-engineering using cutting-edge technology. Our scientists rapidly translate our discoveries into new diagnostics, preventions and treatment of cardiovascular disease – reducing the incidence, severity and impact of heart disease.

Our Aspirations

- To conduct the highest quality research, with an emphasis on 'molecules and mechanisms'.
- To be a world class research facility and one of the best independent medical research institutes in Australia that contributes in a major way to the health of all people, but particularly those of Australia and South-East Asia, through research into cardiovascular diseases.
- To advance knowledge and make fundamental discoveries in cardiovascular research that can be rapidly translated into improved diagnostics, preventions and treatments, and to provide advice on health and research policy at both the federal and state levels.
- To be a leader in the adoption, application and integration of genomics, stem cell and regenerative medicine, and other cutting-edge technologies and approaches, and in the training of clinicians in the interpretation of discoveries made using these technologies for improved patient management.
- To be Australia's leading institute for training in fundamental cardiovascular research and its application to clinical problem solving.

Our Mission

The relief of pain and suffering, and the promotion of wellbeing, through an understanding of the fundamental mechanisms of cardiovascular biology in health and disease.

Our Research Focus

Arrhythmias
Cardiomyopathy
Congenital heart disease
Coronary artery disease
Heart failure
Heart transplantation
Inherited heart disease
Ischemic heart disease
Regenerative medicine
Stem cells

Our Values

Excellence:
to achieve excellence in research
Creativity:
to demonstrate creativity in the pursuit of scientific discovery
Integrity:
to act with honesty, integrity and fairness at all times
Impact:
to undertake research that has significant impact and makes a difference
Teamwork:
to promote a sense of teamwork and collegiality amongst staff and collaborators

Our 2016 Statistics

301
researchers and staff
143
scientific publications
21
laboratories
11,902
people tested by the Victor Chang Health Check Booth
1,285
people toured the Victor Chang Institute
9,000+
hours of research completed

Health Impact

Cardiovascular disease is the leading cause of death globally. It claims the life of one Australian every 12 minutes and can affect anyone irrespective of age or gender. As Australia's most expensive disease, it currently costs the Federal Government more than \$7.6 billion per year. On top of this, congenital heart disease is the most common form of birth defect in Australia, with one baby born every four hours with a heart problem.



Making a Difference

At the Victor Chang Cardiac Research Institute our mission is to relieve the pain and suffering of people with heart disease everywhere. For us, there is nothing more rewarding than watching a patient recover and lead a happier, healthier life. It's the reason we do what we do every day – to help people.

Michelle's Story

"My husband and I were in our gym clothes ready to exercise when we found out our little Chloe was extremely sick. Her cardiologist used the words 'absolutely atrocious' to describe her heart. We just sat there in total disbelief. She was put straight through to emergency and then it all happened so fast, I had to keep pinching myself.

Chloe is now in kindergarten. She's a typical kid in many ways but we know she's very different. She can't do all the things other kids her age can and she's started to question why she can't keep up. How do you tell your daughter she has a sick heart? It's traumatic. We know Chloe will only get worse. Her heart will just get thicker and bigger... It's all a waiting game. While there isn't a lot of hope for Chloe right now, the idea that other children could be saved from this disease and their families prevented from hurting... that gives us hope. And hope is everything. When Chloe goes to bed at night, I can't help but wonder whether or not she'll wake up."

MICHELLE

“

We have to be honest with her. It's traumatic and I have my moments of disbelief. Is this actually happening to us? Then other days are ok and I think we'll get through it.



4hrs

Every four hours a baby is born with congenital heart disease in Australia



a

a. Chloe, who was born with cardiomyopathy, with her mother Michelle





SAMANTHA



We cannot guarantee what the future holds but we know that Sophie is brave and strong. She is doing so well considering everything she's been through.



c



6

Every day, six babies are born with a heart problem

b

Samantha's Story

"We walked in to find out the gender of our baby and walked out with the suggestion of terminating the pregnancy. My ultrasound started off the same as the others, the lady chatted happily. As she looked at Sophie's heart she went quiet, her brow creased, the silence got more awkward. She'd move to Sophie's tummy, legs and feet and kept coming back to her heart stealing another look and saying nothing. I wanted to say 'what's wrong with her heart?' but I couldn't, the words didn't come out. We found out we were having a little girl and then came the conversation with the doctor. 'You don't have long to decide what you want to do...' of all the things said that day, these were the words that were replayed in my mind over and over again.

When I met Sophie I instantly fell in love and bonded with this beautiful chubby baby. She wasn't the frail, blue coloured baby we had prepared ourselves for. She looked completely healthy, it made it even harder to hand her over to the surgeons for her open heart surgery because she looked okay. Just before she was wheeled away for her next operation, we were told there was a chance she won't survive the surgery, but without it she wouldn't survive. She was six days old."

Research Update

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The Victor Chang Institute has established the largest research program in congenital heart disease in Australia, led by world renowned Professor Sally Dunwoodie. Her team is dedicated to finding out why so many babies are born with heart problems. Researchers study both the genetic and environmental causes, to work out how we can prevent these devastating heart conditions.

Chairman's Report

Internationally recognised for the quality of its scientific discoveries, the Victor Chang Cardiac Research Institute is one of the most respected cardiovascular research facilities globally.

This well-earned reputation is a testament to our 200 researchers and in particular our senior scientific leadership team.

Led by Professor Bob Graham and working across 21 specialised laboratories, our scientists are an outstanding group who are focused on finding new treatment paths and delivering life saving outcomes for all Australians suffering from cardiovascular disease and their families.

An incredibly successful year

Throughout 2016, our scientists have made enormous progress in their respective research divisions, particularly in stem cell research, congenital heart disease and inherited heart problems.

The Victor Chang Institute continues to be the frontrunner in the field of congenital heart disease, with Professor Sally Dunwoodie leading Australia's largest genome sequencing initiative. Professor Dunwoodie and her team have also detected that environmental stresses can lead to birth defects. This world first discovery could greatly assist the eight out of ten families who do not currently understand why their child was born with a heart defect.

Our research and discoveries have local and global impact, by helping the two out of three Australian families affected by cardiovascular disease, informing the way other scientists conduct research and revolutionising the way doctors treat their patients. An example of this is our 'heart-in-a-box' transplantation technique, pioneered by the legendary Professor Peter Macdonald, which has transformed organ donation procedures in the United Kingdom and United States – a truly incredible feat.

Outstanding occasions

2016 saw the launch of the Sohn Hearts & Minds Investment Leaders Conference at the iconic Sydney Opera House. The conference was an exceptional opportunity for Australia's investment community to drive awareness and raise vital funds for medical research. It engaged leading fund managers within the investment community from Australia and the world. The notable line-up of speakers included the Hon. Paul Keating, former Prime Minister of Australia, Hamish Douglass, Victor Chang Board Member and Co-Founder of Magellan Financial Group, and Howard Marks, Founder and Co-Chairman of Oaktree. The premier line-up of speakers each shared their best investment idea. The overwhelming success of the day was attributed to the generous financial help provided by our supporters, including the speakers, attendees and other corporate supporters. Principally, the Commonwealth Bank ensures the Sohn Australia Hearts & Minds Investment Leaders Conference will feature as an annual business and community event.

Members of Western Australia's medical and business communities also showed their commitment to cardiovascular disease research in March 2016, by rallying behind research for congenital heart disease.



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Our research and discoveries have local and global impact... informing the way other scientists conduct research and revolutionising the way doctors treat their patients.

Urgent need for Australia to invest in medical research

Despite the great success of medical research over the years, the statistics for cardiovascular disease are still hugely alarming.

Cardiovascular disease kills more people than any other disease in the world and appallingly one Australian dies from this every 12 minutes. But perhaps the most shocking and less known fact relates to congenital heart disease, with four Australian infants losing their lives to heart defects each week.

In addition to this, Australia continues to have an ageing population and our country's rate of chronic disease has far from slowed. The need for a strong and thriving medical research sector in Australia is now more important than ever.

As I have previously flagged, Federal Government funding for medical research remains at an historic low and our country continues to fall behind the rest of the world in medical research investment. This year the National Health and Medical Research Council only funded fifteen per cent of Project Grant applications they received Australia wide.

We continue to be at great risk of losing many of our best and brightest researchers to other countries, vocations and research disciplines.

“

This is a really exciting time in heart disease research but it is heavily dependent on philanthropic support. Equipping our leading scientists with the very best technology could help prevent the deaths of millions...

The Medical Research Future Fund is critically important to bringing medical research funding more closely in line, albeit still behind, with the OECD average. Other countries with smaller populations than Australia recognise not just the social benefit but the economic benefit that can flow from medical research and Australia needs to keep on this path. As I mentioned last year, the Government must deliver on its promise to fully capitalise the Fund by no later than 2019-20.

Importantly, cardiovascular research delivers the highest return on investment. For every dollar invested, the healthcare system saves six dollars in return.

This is a really exciting time in heart disease research but it is heavily dependent on philanthropic support. Equipping our leading scientists with the very best technology is critical to provide better patient care and could help prevent the deaths of millions of men, women and children who continue to die from cardiovascular disease each year.



Thank you to our Supporters, Board and Staff

I would like to acknowledge the many individuals and organisations who have contributed to our success in 2016. The Victor Chang Institute is exceptionally grateful for your ongoing support.

We thank our many regular supporters, our major givers, our corporate sponsors and our fundraising partners for their continued generosity and for sharing our long term vision for the Victor Chang Institute.

This year, we were delighted to honour Ruth Zukerman as Ambassador of the Victor Chang Institute in recognition of her generous patronage, as she has shown exceptional commitment to the Victor Chang Institute for five years.

Our Executive Director, Professor Bob Graham is a true leader at the Victor Chang Institute and in the wider research domain. Bob has built and led our world class group of senior scientists and inspired the next generation of researchers. We sincerely thank him for the 22 years of leadership and collaboration so far and look forward to 2017 with him at the helm.

I acknowledge and thank our Board members for their support and enormous commitment to the Victor Chang Institute. I extend a very warm welcome to Hamish Douglass from Magellan Financial Group who joined the Board of Directors in December 2016 and was pivotal in our inaugural Sohn Australia Hearts & Minds Investment Leaders Conference.

Thank you to the Sisters of Charity and the Trustees of Mary Aikenhead Ministries for their ongoing support and guidance and to our Precinct Partners – St Vincent's Hospital and the Garvan Institute of Medical Research. Collectively, we are addressing every major disease that affects our society today.

Finally, to the researchers, staff and scientists at the Victor Chang Institute – we continue to be inspired by your outstanding work, perseverance and achievements. Thank you for your dedication to this vital cause. We all look forward to continuing Dr Victor Chang's important legacy.



Matthew Grounds
CHAIRMAN



Executive Director's Report

It has been a truly remarkable year for the Victor Chang Cardiac Research Institute. In 2016, we continued to strive for research that is meaningful and that will stand the test of time. It is research we can build upon and that will last into the future for many decades to come. But importantly, it is research which will make a significant difference to people's lives.

Despite the continuing austere grant-funding climate, we have had an enormously strong year from a financial and research perspective.

A very major initiative launched in 2016 due to a substantial investment from the NSW Government, for which we are most grateful. The Victor Chang Innovation Centre will herald a medical research revolution that promises to reduce the burden of heart disease and stroke.

The Victor Chang Innovation Centre will be available to all NSW cardiovascular researchers. It will allow us to do more advanced, cutting-edge research and will attract world class researchers to the state. It will be led by Prof Roland Stocker with the assistance of Prof Sally Dunwoodie, and our new Centre Manager, Milad Melhem.

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The generous support of our donors never fails to astound me. We could not have made such progress in our research or momentous breakthroughs without your overwhelming efforts.

There have also been outstanding awards and honours achieved by our faculty, who we are immensely proud of. In particular, our Deputy Director, Prof Richard Harvey was elected to Fellowship of the Royal Society of London, joining the likes of Albert Einstein and Isaac Newton – undoubtedly one of the greatest honours that can be bestowed upon a scientist. In addition, Prof Roland Stocker was welcomed into the Swiss Academy of Science and Dr Daniela Stock was elected as Fellow of the Australian Academy of Science.

The Victor Chang Institute was also very successful in securing Fellowships from our peak government funding body, the National Health and Medical Research Council (NHMRC) – one to each of our Co-Deputy Directors, Prof Richard Harvey and Prof Jamie Vandenberg, and one to our Faculty-at-Large, Associate Prof Livia Hool. In addition Prof Harvey and Dr Kazu Kikuchi, secured NHMRC Project Grants, and Prof Stocker and Prof Graham were awarded grants from the Australian Research Council. Furthermore, two of our young scientists, Dr Eleni Giannoulatou and Dr Nicola Smith, received fellowships from the National Heart Foundation.

2016 was also a year of significant discoveries. Prof Sally Dunwoodie's laboratory discovered that short-term oxygen deficiency can have major impacts on heart development in the embryo. This breakthrough could help us understand why a baby is born with a heart problem every four hours. Associate Prof Catherine Suter's team discovered that a father's nutrition and metabolic health can influence their son's and even grandson's health and disposition to metabolic disease later in life. Also, in a world first, Prof Diane Fatkin's laboratory pinpointed a gene responsible for causing a deadly heart condition known as cardiomyopathy, which has affected a family of more than 50 members for decades. This breakthrough could help treat and prevent the onset of the disease.

By way of giving back to the broader community, in 2016 the Victor Chang Institute launched the Victor Chang Heart of Gold Awards. The awards honoured eight Australians for their significant acts of courage to save the life of someone in cardiac peril. Currently there are no other awards in Australia focusing specifically on the heart, despite the fact that heart disease remains our

leading cause of death. I cannot think of a more deserving group of people to honour!

While I am immensely proud of the Victor Chang Institute's achievements in 2016, the fact remains that annually cardiovascular disease continues to kill over 17 million people worldwide, many while still in the prime of their lives, including babies, adolescents, adults, and both men and women. In Australia alone, it claims the lives of over 45,000 people annually and continues to be the primary reason our healthcare costs are increasing. So, clearly, we still have much to do, and we still very much need your help.

Despite these disturbing truths, the generous support of our donors never fails to astound me. We could not have made such progress in our research or momentous breakthroughs without your overwhelming efforts. The most effective way we can show our sincere appreciation, is by continuing to employ the brightest people, to conduct cutting-edge research, and to translate our discoveries into treatments and preventions for you, your families and our community.

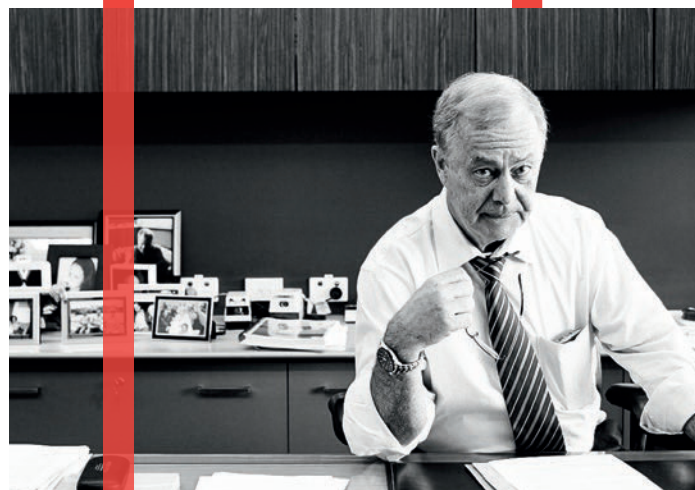
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The most effective way we can show our sincere appreciation, is by continuing to employ the brightest people, to conduct cutting-edge research, and to translate our discoveries into treatments and preventions for you, your families and our community.

Special thanks must also go to all our wonderful supporters, who give so generously, the Sisters of Charity, to the Trustees of Mary Aikenhead Ministries, our patrons (Ann Chang and Steven Lowy AM), our Chairman, Matthew Grounds and all the Members of our Board and Appeals Committee, our Life Governors and Ambassadors, and to our colleagues at the Garvan Institute of Medical Research, the St Vincent's Centre for Applied Medical Research, the University of NSW and, most importantly, to all our patients who participated in research studies. We cannot find cures for heart disease alone.



Professor Robert M. Graham AO
EXECUTIVE DIRECTOR



8,400

Heart attacks claim the lives of 8,400 people every year



30

30 babies undergo heart surgery every week in Australia

Trustee's Message

The founding of the Victor Chang Cardiac Research Institute in 1994 is testament to the abiding commitment of the Sisters of Charity of Australia, and now of the Trustees of Mary Aikenhead Ministries. Mary Aikenhead, one of the five nuns who founded St Vincent's Hospital in 1870, believed in the importance of hope and doing the utmost to be a life-giving presence to others. The legacy of Dr Victor Chang's skills and passionate care for patients continues in the world class cardiovascular research carried out at the Victor Chang Institute and its translation into improved patient outcomes. Scientists at the Victor Chang Institute epitomise the capacity to think anew, to recognise the need for change, to reflect deliberately on practice, and to search constantly for solutions.

With my fellow Trustees of Mary Aikenhead Ministries, David Alcock, Sr Helen Clarke rsc, Sr Linda Ferrington rsc, Emeritus Professor Gabrielle McMullen AM and David Robinson, I congratulate the Victor Chang Institute on its many remarkable discoveries this year, including:

- For the first time, scientists at the Victor Chang Institute have discovered that environmental stresses can cause birth defects
- Victor Chang Institute scientists have found compelling evidence that a father's nutrition and metabolic health can influence his son's, and even his grandson's health
- In a world first breakthrough, researchers at the Victor Chang Institute have been able to prevent the onset of a deadly heart condition that has haunted a family of more than 50 members for decades

We express our immense gratitude to the Chairman, Mr Matthew Grounds and Board of Directors; the Executive Director, Professor Robert Graham AO; and staff and students for their exceptional dedication to fulfil the noble mission of the Victor Chang Institute. On behalf of the Trustees of Mary Aikenhead Ministries, I am pleased to commend to you the 2016 Annual Report of the Victor Chang Institute.

Dr Tessa Ho

Dr Tessa Ho

CHAIRPERSON

FOR AND ON BEHALF OF THE TRUSTEES
OF MARY AIKENHEAD MINISTRIES



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Scientists at the Victor Chang Institute epitomise the capacity to think anew, to recognise the need for change, to reflect deliberately on practice, and to search constantly for solutions.

Organisational Structure

Trustees

Mary Aikenhead Ministries
CHAIR
Dr Tessa Ho



Scientific Advisory Board

CHAIRMAN
Matthew Grounds

DEPUTY CHAIRMAN
David Craig

Board Committees

Finance and Risk
CHAIR David Craig

Media and Communications
CHAIR Jill Margo AM

Western Sydney
CHAIR Louise Di Francesco

EXECUTIVE DIRECTOR
Prof Robert Graham AO

DEPUTY DIRECTORS
Prof Richard Harvey
Prof Jamie Vandenberg

Research Divisions

Cardiac Physiology and Transplantation
DIVISION HEAD Prof Michael Feneley AM

Developmental and Stem Cell Biology
DIVISION HEAD Prof Richard Harvey

Molecular Cardiology and Biophysics
DIVISION HEAD Prof Robert Graham AO

Molecular, Structural and Computational Biology
DIVISION HEAD Dr Daniela Stock

Vascular Biology
DIVISION HEAD Prof Roland Stocker

Innovation Centre
CENTRE MANAGER Milad Melhem

CHIEF OPERATING OFFICER
Janina Jancu

Administration and Core Facilities
Essential Services
Finance
Governance and Policy
Human Resources
Information Technology

DIRECTOR OF FUND DEVELOPMENT
Ariane Gallop

Fund Development
Bequests
Corporate Partnerships
Direct Marketing
Media and Communications
Philanthropy

Affiliations

University of New South Wales
St Vincent's Health Australia



Board of Directors

The successful operations of the Victor Chang Cardiac Research Institute are heavily reliant on the dedication, commitment and vision provided by our Board of Directors, led by Mr Matthew Grounds.



Matthew Grounds

CHAIRMAN

BCOM, LLB (HONS)

Mr Grounds is Chief Executive Officer and Country Head of UBS Australasia. Until May 2014 he also held the position of Head of Corporate Client Solutions, Asia Pacific and was a member of the UBS investment Bank Global Executive Committee.

With more than 25 years investment banking experience, Mr Grounds is one of Australia's leading corporate advisers and has been responsible for a number of landmark transactions for major Australian and international companies.

Mr Grounds is Chairman of the Victor Chang Institute, a member of the University of New South Wales Council, a member of the Business Council of Australia and Director of the UBS Foundation.

Mr Grounds graduated from the University of New South Wales and holds a degree in Commerce (Finance Major) and Law.



David Craig

DEPUTY CHAIRMAN

BEC, FCA, GAICD

Mr Craig joined the Board in 2007 and took over as Chair of the Victor Chang Institute's Finance & Risk Committee in 2012. Since 2006 he has been the Chief Financial Officer of the Commonwealth Bank of Australia. Mr Craig has over 30 years of experience in financial management, strategy, mergers and acquisitions. His previous roles include: Chief Financial Officer for Australand, Global Chief Financial Officer of PwC Consulting, and Chief Operations Officer and for 15 years Senior Audit Partner of PricewaterhouseCoopers Australasia.

Mr Craig is President of the Financial Executives Institute of Australia, a Director of the Lendlease Group, and has also served as a Director of the Australian Gas Light Company.



Robert M Graham

AO, FAA, MBBS (HONS), MD, FRACP, FACP, FAHA, FAHMS, GAICD

Professor Graham is Executive Director of the Victor Chang Institute, and a member of its Finance & Risk Committee. He is the Des Renford Professor of Medicine, and Professor of Biotechnology and Biomolecular Science, University of New South Wales, and Professor (adjunct) of Physiology and Biophysics, Case Western Reserve University School of Medicine, Cleveland, Ohio. He is a Fellow of the Australian Academy of Science and the Australian Academy of Health & Medical Sciences, and foreign member, Royal Danish Academy of Sciences and Letters. He is a member of the American Association for Clinical Research, the American Society of Clinical Investigation and the American Heart Association, and a Life Member, Heart Foundation of Australia.



Peter K Allen

Mr Allen is an Executive Director and Chief Executive Officer of Scentre Group. Prior to the establishment of Scentre Group in 2014, Mr Allen was an Executive Director and Chief Financial Officer of Westfield Group. Mr Allen joined Westfield in 1996 and between 1998 and 2004 was Westfield's CEO of the United Kingdom/Europe and responsible for establishing Westfield's presence in the United Kingdom. Prior to joining Westfield, Mr Allen worked for Citibank in Melbourne, New York and London. Mr Allen is Chairman of the Shopping Centre Council of Australia.



Terry Campbell

AM, MD, DPHIL, FRACP

Professor Campbell joined the Board in 2013. He is the Head of the Department of Medicine at St Vincent's Hospital, and Deputy Dean of Medicine, University of New South Wales. From 2003 to 2009, he served as Deputy Director of the Victor Chang Institute alongside Professor Richard Harvey. He also served as President of the Cardiac Society of Australia and New Zealand from 2000 to 2002. Professor Campbell's work has encompassed both laboratory research and clinical cardiology. He has published over 100 peer-reviewed papers in international

journals, and has held competitive research funding grants from both the National Health & Medical Research Council and National Heart Foundation. In 2003, he was appointed as a Member of the Order of Australia (AM).



Louise Di Francesco

Mrs Di Francesco joined the Board in 2010 and is the Chair of its Committee for Western Sydney. Mrs Di Francesco has worked in the media industry for more than 30 years, initially as a journalist, and for the past 22 years in media and corporate communications. She is a specialist in all areas of corporate media management, public relations, issues management and crisis management, and has worked on campaigns for AAPT, CeBIT, Mercedes Benz Australian Fashion Week, Alterian, Carbon Planet, Australand, Lend Lease, Multiplex, Colliers, Landcom and James Fairfax.



Jennifer Doubell

MSC, MA, BA DIP SOC STUDS,
DIP CRIM, CFRE

Mrs Doubell joined the Board in 2014. She has worked in the not-for-profit sector for more than 30 years, initially as a social worker and criminologist, and for the past 25 years in development and fundraising. Mrs Doubell is currently the Executive Director of the Peter MacCallum Cancer Foundation. Previous roles include National Fundraising Director at the Heart Foundation, Director of Development and External Affairs at the University of Sydney and at the Australian Graduate School of Management, and Group Manager at the Wesley Mission, Sydney. In total across her various senior management positions in a number of organisations she has helped raise in excess of \$484 million. She is the recipient of many industry awards for her work.



Hamish Douglass

BCOM

Mr Douglass joined the Board in 2016. He is Co-Founder, Chief Executive Officer and Chief Investment Officer of Magellan Financial Group. Mr Douglass is the Lead Portfolio Manager of Magellan's Global Equities Strategies and a member of Magellan's Investment Committee. He was formerly Co-Head of Global Banking for Deutsche Bank AG in Australia and New Zealand, a member of the Foreign Investment Review Board, the Financial Literacy Board, the Australian Government's Takeovers Panel, and the Forum of Young Global Leaders – World Economic Forum.



Leslie Field

AM, FAA, DSC, PHD, BSC

Professor Field joined the Board in 2009. He was appointed to his current position as Senior Deputy Vice-Chancellor at the University of New South Wales in 2016. Prior to this appointment, he served as the Deputy Vice-Chancellor (Research) at UNSW from 2005 to 2016. His main areas of research are organometallic chemistry, catalysis and NMR spectroscopy. He is the author of more than 200 scientific papers and four text books.

He is the recipient of the Rennie Medal (1983); The Edgeworth David Medal (1986); The Organic Chemistry Medal (1992); the Centenary of Federation Medal (2003) and the RACI Leighton Medal (2010). He was elected as a Fellow of the Australian Academy of Science in 1996 and appointed as a Member of the Order of Australia in 2011 for his services to Chemistry and to Higher Education. In 2013, he was appointed Secretary for Science Policy in the Australian Academy of Science and he is currently a member of the Governing Council of the Australian Academy of Science. He was elected as a Fellow of the Royal Society of New South Wales in 2014.



Angelos Frangopoulos

BA(COMM) MCAE, HONDA CSTURT,
GAICD, JP

Mr Frangopoulos is the Chief Executive Officer and Managing Editor at Australian News Channel Pty Ltd (ANC), the operator of the Sky News services and the leading provider of 24 hour television news services in Australia and New Zealand. Mr Frangopoulos joined ANC in July 1996, five months after the channel's inception. After serving as Chief of Production, he was appointed Managing Editor in 2000 and then Chief Executive Officer in 2004.



John Kean

OAM, FCA, FAICS

Mr Frangopoulos is Chairman of the Australia Day Council of NSW, Chair of the Centre for Media History at Macquarie University, Pro-Chancellor (Sydney) for Charles Sturt University, Deputy Chair of the Walkley Advisory Board and Australian Subscription Television and Radio Association and is a graduate member of the Australian Institute of Company Directors. He has also been awarded an Honorary Doctorate by Charles Sturt University.

Mr Kean has been a member of the Board since 2003, is a Life Member of the Victor Chang Institute and was the Chair of its Finance & Risk Committee until retiring from this position in 2012. He acts as an Independent Business Advisor and holds directorships in various businesses involved in finance, trade, primary production, property and healthcare.



Jill Margo

AM, BA (HONS)

Ms Margo joined the Board in 2008 and is the Chair of the Victor Chang Institute's Media and Communications Committee. She is the health editor of The Australian Financial Review. She has won numerous international and national media awards, including two Walkleys and a Churchill Fellowship.

In 2006, Ms Margo was awarded an Order of Australia for services to journalism and cancer. She holds a BA (Honours) in English literature, and is a best-selling author and biographer. In 2016 Ms Margo was appointed an Adjunct Associate Professor at the University of New South Wales.



Dr Gary Weiss

LLB (HONS), LL.M, JSD

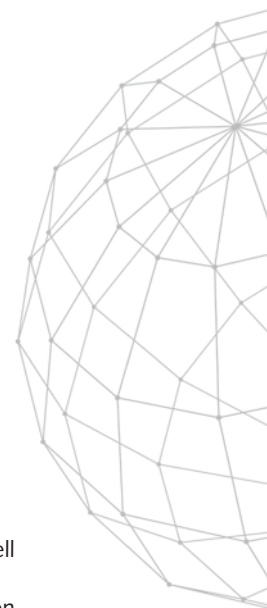
Dr Weiss joined the Board in 2009 and is a member of its Finance & Risk Committee. He holds the degrees of LL.B (Hons) and LL.M (with dist.), as well as a Doctor of Juridical Science (JSD) degree from Cornell University, New York. Dr Weiss is Chairman of Ridley Corporation Limited and Executive Director of Ariadne Australia Ltd. He is also a director of Premier Investments Limited, Estia Health Limited, Thorney Opportunities Limited, Pro-Pac Packaging Limited, Tag Pacific Limited and The Straits Trading Company Limited in Singapore. Mr Weiss is also a Commissioner on the Australian Rugby League Commission and a director on The Centre for Independent Studies. He has authored numerous articles on a variety of legal and commercial topics.



Sr Anthea Groves

RSC, OAM, RN LHA DIP. OF NURSING ADMINISTRATION

Sr Anthea has been a member of the Board since 2003. She is a member of the congregation of the Sisters of Charity and is Patient Liaison Officer at St Vincent's Hospital, Sydney. Sr Anthea is a Director of the Sisters of Charity Foundation.



The Victor Chang Innovation Centre

In 2016, the NSW Government announced a \$25 million investment to establish the Victor Chang Innovation Centre to help tackle Australia's deadliest disease.

The Victor Chang Innovation Centre is needed to help the nation's 3.7 million children and adults affected by cardiovascular disease. It will ensure patients in NSW receive the best possible cardiovascular care and will play a key role in positioning NSW at the forefront of medical research infrastructure in Australia.

Featuring cutting-edge technology, it will attract world class researchers to NSW, encourage collaboration and allow previously impossible solutions to be discovered.

Comprised of seven new facilities, it will contain a Cardiac Stem Cell and Regeneration facility, Cardiogenomics and Gene Editing facility, Cardiac Imaging facility, Cardiac Arrhythmia facility, Transplant and Devices facility, a Metabolomics facility, as well as a dedicated Children's Cardiac Research facility.

The Victor Chang Innovation Centre will be fitted with state-of-the-art equipment including two MRI scanners, a series of cutting-edge mass spectrometers, micro CT, iPSC automated robotics and a cryo-electron microscope.



Milad Melhem has recently been appointed Manager of the Victor Chang Innovation Centre. Milad will be responsible for leading the procurement of the required scientific and medical equipment for the facilities. He will also lead the design, construction, implementation and promotion of the Victor Chang Innovation Centre.

Discoveries

In 2016, our scientists made major scientific breakthroughs which have continued to revolutionise our understanding of cardiovascular disease, causation, mechanisms and medical treatments. Here are just a few examples of what we have achieved over the past 12 months.

World first discovery gets to the heart of birth defects

For the first time, scientists at the Victor Chang Institute believe they've discovered a cause of multiple types of birth defects triggered by environmental stresses.

The breakthrough shows that cellular stress could be the key to understanding why many babies are born with defects of the heart, vertebrae and kidney, among others.

Affecting 1 in 100 babies, childhood heart disease is the most common form of birth defect in the world. But despite its prevalence, surprisingly the genetic and environmental causes are very poorly understood.

Our latest research, led by world renowned professor, Sally Dunwoodie, analysed the effects of short term oxygen deficiency on heart development. Oxygen deficiency in an embryo can be caused by many factors including prescription medications, high blood pressure, high altitude, a tangled umbilical cord, as well as carbon monoxide.

The scientists showed for the first time that reduced oxygen levels damaged the developing heart.

Eighty per cent of cases of congenital heart disease remain unsolved and this discovery could help find answers, giving hope to many families.

e. Professor Sally Dunwoodie
f. Associate Professor Catherine Suter with colleagues
g. Professor Mark Febbraio and Dr Jennifer Cropley
h. Professor Diane Fatkin and Dr Inken Martin



Landmark breakthrough finds grandpa's obesity affects the health of his grandchildren

Scientists at the Victor Chang Institute and Garvan Institute of Medical Research have found powerful evidence that a father's metabolic health can be passed from generation to generation, affecting not only his children but importantly his grandchildren.

This vital breakthrough in obesity research revealed that male mice, who are obese when they conceive, are putting their children and grandchildren at significant risk of developing metabolic disease – long before they are even born.

The lead author on the study, Associate Professor Catherine Suter from the Victor Chang Institute said the discovery could have immediate ramifications for the public's health, including the 14 million Australians who are overweight or obese.



Life changing diagnosis gives hope to four generations living with a deadly heart disorder

In a world first breakthrough, scientists at the Victor Chang Institute could now be able to prevent the onset of a deadly heart condition that has haunted a family of more than 50 members for decades.

Passed from generation to generation, the family suffers from dilated cardiomyopathy, an inherited disease which causes the heart to enlarge, leads to heart failure and often sudden cardiac death.

After more than 10 years of meticulous research, Professor Diane Fatkin and her team at the Victor Chang Institute have pinpointed the genetic mutation causing the problem.

Previously the family did not know who would develop this terrible disease. Now, even with the children, scientists can tell who is at risk, just from their DNA. On top of this, the family can be informed of the diagnosis at the earliest possible stage, which will enable doctors to start treating those affected long before they start to show any signs or symptoms of heart failure.



Making a Difference

h. Melissa with her partner Simon



1/500

One in 500 people are affected by cardiomyopathy in Australia

My illness didn't disappear after the transplant. My kidneys went, I had the highest level of rejection and they discovered an arrhythmia. I guess they're things I had to go through to be here today.

MELISSA

“

Melissa's Story

"I stood there and watched my mum pass away and I thought 'wow, I have that disease too'. I'd been fighting cardiomyopathy for 16 years before I needed a transplant urgently. One day, my doctor simply said 'you're in the final stage of heart failure'. My time was up and I wasn't done living yet. To hear those words, that I was dying and quite rapidly, it was terrifying. And it was a pain I couldn't take away from my family. I didn't want my brother to have to bury his mum and sister to this awful disease.

The doctor and I had a very real conversation about organ donation. He asked me 'Why do you deserve this gift?' And I couldn't answer him. Why does anyone think they deserve to be here?! I said nothing makes me happier than Sundays... watching all the kids in my family play. My brother makes spag bol, we sit around and laugh and everything is good. And I don't want to miss that. Now I celebrate life every day and I've written a bucket list for my donor and their family. I will never be able to word how truly grateful I am that this disease won't take me, like it did my beautiful mother."

Research Update

.....

Cardiomyopathy is a disease of the heart muscle and prevents the heart from pumping blood around the body properly. At the Victor Chang Institute, scientists are trying to locate the genes responsible for causing cardiomyopathy in families like Melissa's.



h

FLY OVER HEART REEF

BREATHWALL - HEART ROCK

RELEASE BALLONS / WHEELCHAIRS

LIVE A HAPPY LIFE

COMPLETE RANDOM ACTS OF KINDNESS

WRITE MY STORY

ORGAN & BLOOD DONATION AWARENESS



Deanne's Story

"It was February 2016 at two o'clock in the morning when my mobile phone rang... A heart transplant had become available. My emotions were mixed. I was anxious and nervous. And then I felt numb with grief and sadness. Somewhere out there, a family had just lost a loved one and during their time of loss, they made the brave decision to donate their organs to give life to another person, a stranger.

I was with dad right until the doors of the surgical room. It was time. He sat up in his bed, hugged me like he'd never hugged me before and I didn't want to let go. It felt so final. 'Thank you for everything. I love you!' Those were the last words I would ever hear dad say."

Research Update

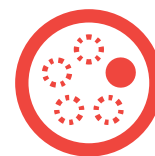
.....

Heart failure occurs when the heart becomes too weak or stiff to pump blood effectively around the body. Scientists at the Victor Chang Institute are researching new treatments for heart failure as well as developing procedures that can advance heart transplantation.

DEANNE

“

Dad took a turn for the worse. He'd suffered six or seven heart attacks in as many weeks, each one becoming more severe than the last. And then, he was diagnosed with heart failure.



1/5

One in five people will die waiting for a transplant

i + j. Deanne with her father and sister before his heart transplant surgery



i



j

NT IN 31Kb HYBRIDISATION

ORCL

Linearise DNA

digest to linearise
(537.7 ng/μL).

PAGE

5μL M10124

5μL NEB3

5μL transformed
5μL phageid

5μL ddH₂O

30μL reaction

TITLE OF EXPERIMENT

(colony 1) (564.5 ng/μL)

Ch I

NEB 4

transformed
phageid

5μL ddH₂O

5μL reaction

TOUCH-D PCR OF BR2-gen-3.
(colony 1) (536.4 ng/μL).

NEB 4 0.6 μL

NEB 4 2.0 μL

NEB 4 9.5 μL

NEB 4 38 μL

NEB 4 reaction

NEB 4 reaction

NEB 4 reaction

NEB 4 reaction

NEB 4 reaction

NEB 4 reaction

NEB 4 reaction

NEB 4 reaction

NEB 4 reaction

NEB 4 reaction

NEB 4 reaction

NEB 4 reaction



Laboratory Notebook

Page

25

DATE OF EXPERIMENT

31 / 3 / 16

Continued From

Page # 24

Book #

For 5μg:

$$564.5 \text{ ng} = 0.5645 \text{ μg/μL}$$

$$5 \text{ μg} = 0.5645 = 8.357 \text{ μL}$$

For 5μg:

$$536.4 \text{ ng} = 0.5364 \text{ μg/μL}$$

$$5 \text{ μg} = 0.5364 = 9.321 \text{ μL}$$

For 5μg

$$495.7 \text{ ng/μL} = 0.4957 \text{ μg/μL}$$

$$5 \text{ μg} = 0.4957 = 10.09 \text{ μL}$$

samples using TOUCH-D protocol.

1, 7, 8, 9, 10, 20, 23, 24, 25, 30, 32,
33, 38, 49, 50, 51

CONTINUED FROM PG NO.

VICTOR CHANG CARDIAC RESEARCH INSTITUTE

NAME OF PERSON CONDUCTING EXPERIMENT

FIRST WITNESS OF EXPERIMENT

SECOND WITNESS OF EXPERIMENT

NTL 0.66

NTL 2.2 μL

NTL 11.0

NTL 36.14 μL

NTL reaction

NTL reaction

NTL reaction

NEXT STEPS: (1) PCR inconclusive
(2) Re-do digest.

→ inconclusive samples &
(16)



Cardiac Physiology and Transplantation

Feneley Laboratory

Keogh Laboratory

Macdonald Laboratory

Muller Laboratory

O'Rourke Laboratory



Developmental and Stem Cell Biology

Dunwoodie Laboratory

Harvey Laboratory

Kikuchi Laboratory

Research Divisions

At the Victor Chang Cardiac Research Institute, we integrate innovative transplantation techniques, advanced stem cell research, bioengineering, and complex molecular and genetic analysis – to discover better ways to diagnose, treat and ultimately prevent the onset of heart disease.



Molecular Cardiology and Biophysics

Fatkin Laboratory

Graham Laboratory

Hill Laboratory

Hool Laboratory

Martinac Laboratory

Smith Laboratory

Vandenberg Laboratory



Molecular, Structural and Computational Biology

Christie Laboratory

Giannoulitou Laboratory

Ho Laboratory

Stewart Laboratory

Suter Laboratory

Clinical Faculty

A/Prof Kumud Dhital
 Prof Chris Hayward
 A/Prof Cameron Holloway
 A/Prof Andrew Jabbour
 Dr Paul Jansz
 A/Prof Jane McCrohon
 Dr James Otton
 A/Prof Jacob Sevastos
 A/Prof Phillip Spratt
 A/Prof Rajesh Subbiah

Honorary Faculty

Prof Oliver Freidrich
 Prof Matthias Hentze
 Prof Ahsan Husain
 Dr Lawrence Lee
 Dr Ming Li
 Prof David Martin
 Prof Andras Nagy
 Prof Soren-Peter Olsen
 Dr W. Andrew Owens
 Prof Thomas Preiss
 Prof David Winlaw



Vascular Biology

Stocker Laboratory



DIVISION

Cardiac Physiology and Transplantation



Feneley Laboratory

- Cardiomyopathy
- Heart attack
- Ischemic heart disease

Keogh Laboratory

- Pulmonary hypertension
- Heart failure
- Immunosuppression

Macdonald Laboratory

- Heart transplantation
- Donor heart preservation
- New heart failure treatments

Muller Laboratory

- Structural heart disease
- Valvular heart problems

O'Rourke Laboratory

- Damaging effects of ageing on the heart

Feneley Laboratory

Headed by

Prof Michael Feneley AM

Scientists in the Feneley Laboratory study how heart cells grow in disease and how effectively the heart contracts and relaxes under these conditions. The team is trying to understand the processes of cardiac hypertrophy and heart failure.

Cardiac hypertrophy is an abnormal enlargement of the heart muscle. While there are a number of factors that can lead to cardiac hypertrophy, it is often a result of chronic high blood pressure. Unfortunately, in many circumstances heart muscle enlargement is a precursor to heart failure.

Heart failure is a serious condition occurring when the heart becomes too weak or stiff to efficiently contract or relax, and is unable to effectively pump blood around the body.

It is an enormous economic burden on our healthcare system as patients often suffer an increasing number of illnesses and need frequent hospital care. The incidence of heart failure also increases with age. Sometimes a heart transplant is the only viable treatment for these patients.

k. Professor Michael Feneley with Scott Kesteven



PCR : 7
(8568 -
conce
Electrop

8674-6	50.33	1.007	0.513	7820-5	90.82	1.1
8674-7	57.15	1.143	0.594	7820-6	112.88	2.3
8674-8	39.93	0.799	0.404	8067-1	115.62	2.3
8674-9	38.43	0.769	0.362	8067-2	92.24	1.3
8674-10	50.99	1.02	0.517	8067-3	78.18	1.3
8068-1	92.07	1.841	0.945	8067-4	87.16	1.3
8068-2	44.71	0.894	0.449	8067-5	68.98	1.3
8068-3	49.23	0.885	0.502	8067-6	69.87	1.3
8068-4	38.67					
8068-5	6					
8068-6						
8068-7						
8068-8						
8068-9						

(MasterMix +
140v , 40 min

“

Understanding how heart cells respond to increased workloads is critical to preventing heart failure.

8674(1)
7 8 9 1

1

Sample ID ng/ul

7819(5)-1	130.3
7819(5)-2	63.33
7819(5)-3	63.37
7819(5)-4	89.3
7819(5)-5	54.71
7819(5)-6	111.2
7819(5)-7	89.55
7819(5)-8	256.1
7819(5)-9	89.91

644
450
300
150
0
Value: min/s

160
2018/11/10
100858

Genotyping: PCR
Electro

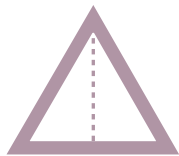
2

“

We believe we can learn a lot from zebrafish because if we understand how their cells transform, we may be able to encourage regeneration in a human heart.

5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10





DIVISION

Developmental and Stem Cell Biology

Kikuchi Laboratory

Headed by
Dr Kazu Kikuchi

The Kikuchi Laboratory studies the processes of heart regeneration.

When you suffer from a heart attack, millions of your heart muscle cells die and are unable to be repaired or replenished, which can severely weaken your heart.

At the Victor Chang Institute, scientists examine tiny tropical fish called zebrafish that have the ability to regenerate their organs after they have been damaged.

More specifically, they are interested in a special type of immune cell in zebrafish which appear *en masse* in the heart, as soon as it has been injured.

Dr Kikuchi and his team have recently discovered that following an injury, these unique cells change and adapt, depending on the organ they want to fix.

Now the question Dr Kikuchi is trying to understand is how the zebrafish do this and if humans could benefit from this.



Dunwoodie Laboratory

- Congenital heart disease
- Embryonic development

Harvey Laboratory

- Heart development
- Congenital heart disease
- Heart stem cells and regeneration

Kikuchi Laboratory

- Heart muscle regeneration
- Heart failure



I. Dr Kazu Kikuchi in the Victor Chang Institute's zebrafish aquarium



DIVISION

Molecular Cardiology and Biophysics



Fatkin Laboratory

- Dilated cardiomyopathy
- Atrial fibrillation
- Inherited heart disease

Graham Laboratory

- Cardiac regeneration
- Coronary artery disease
- Hypertension

Hill Laboratory

- Drug induced arrhythmias
- Computational cardiology

Hool Laboratory

- Cardiomyopathy
- Heart failure associated with muscular dystrophy

Martinac Laboratory

- Ion channels in the heart
- Mechanical forces

Smith Laboratory

- Hypertension
- Pharmacology

Vandenberg Laboratory

- Inherited arrhythmias
- Electrical activity in the heart

Fatkin Laboratory

Headed by

Prof Diane Fatkin

Professor Diane Fatkin and her team of scientists investigate one of the most common inherited heart problems – dilated cardiomyopathy.

Dilated cardiomyopathy is a disease of the heart muscle that prevents the heart from pumping blood around the body properly and can lead to heart failure.

The Fatkin Laboratory is pioneering Australian first research to find out who is at risk of developing the disease to enable early diagnosis.

Professor Fatkin and her team are trying to pinpoint the faulty genes that cause cardiomyopathy to be passed down from generation to generation in many families.

Now, for the first time, a patient with dilated cardiomyopathy can have their entire genetic makeup screened quickly, at a low cost, and with far greater results than conventional methods.

The major benefit of this revolutionary project is that scientists can identify who is at risk of developing cardiomyopathy from a very young age.

m. Professor Diane Fatkin with her team of scientists



3

“

If we can identify family members at risk even before any symptoms develop, we can intervene straight away, which may help delay or stop their progression to severe heart failure.





Christie Laboratory

- Crystallisation facility
- Protein function

Giannoulatou Laboratory

- Bioinformatics
- Inherited heart disease
- DNA analysis

Ho Laboratory

- Bioinformatics
- Mass analysis of human genomic data
- Inherited heart disease

Stewart Laboratory

- Protein structure
- Crystallisation facility

Stock Laboratory

- Protein structure
- X-ray crystallography

Suter Laboratory

- Epigenetics
- Parental Obesity



DIVISION

Molecular, Structural and Computational Biology

Christie Laboratory

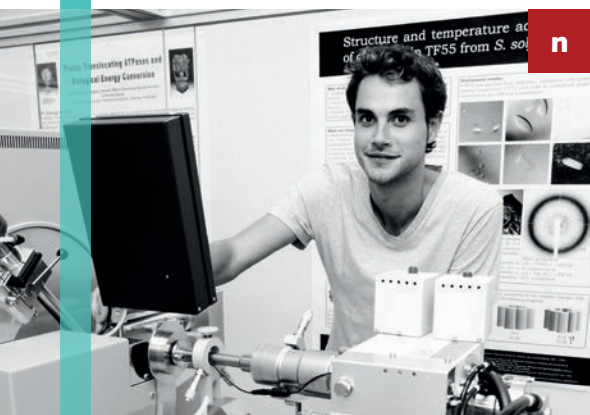
Headed by

Dr Tara Christie

In 2016, we welcomed our newest Group Leader, Dr Tara Christie, to the Victor Chang Institute. Dr Christie is a structural biologist who studies proteins – the fundamental molecular machines in all living cells. Determining the structure of proteins and what their role is within a cell is critical to understanding how disease occurs and how proteins that contribute to disease can be targeted with drugs.

Dr Christie and her team use X-ray crystallography to uncover the atomic structure of proteins. This cutting-edge technology provides detailed information on the three-dimensional structure of proteins, gives insight into their function and helps guide pharmacological drug design.

Colleague and fellow structural biologist, Dr Alastair Stewart, employs similar X-ray crystallography techniques in his research. Dr Stewart is trying to understand one of the most fundamental unanswered questions of biology: 'How do we convert energy from nutrients into a biologically useful form?'



n. Dr Alastair Stewart

10 UVI 280nm
10 Logbook

s6:10 Cond

s6:10 Fractions

s6:10

slight decrease H_2O in
but good.
cryo worked!

10% PEG 2000
10% glycerol
5% isopropanol
0.1 M Tris pH 7.5

4

“

The best part
of my work is
the discovery...
it's seeing
something
that nobody
has seen before,
or explaining
something
that nobody
has previously
understood.

Liquid propane slowly evaporates
residue behind.
The fast freezing did no improve

2nd try - in I can
work the fine line
- less than 100
better

IB3 IB5 IB7 IB9 IB12 IC3 IC5 IC7 IC9 IC12 ID3 ID

10.0

15.0

20.0

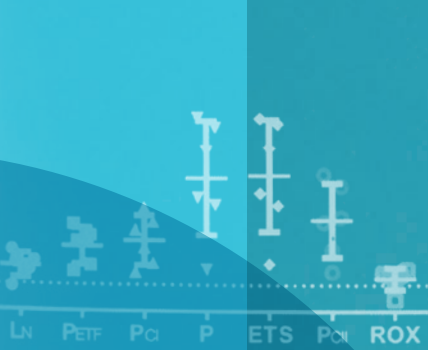
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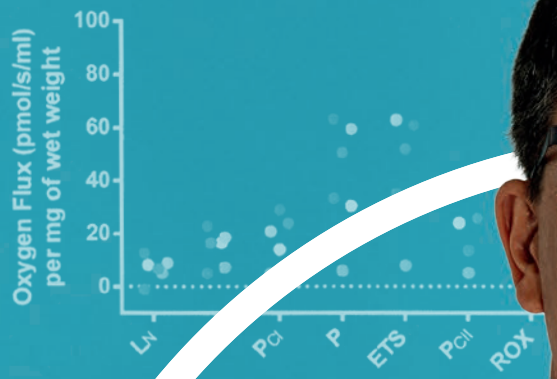
Signed



KO Red Gastroc SD



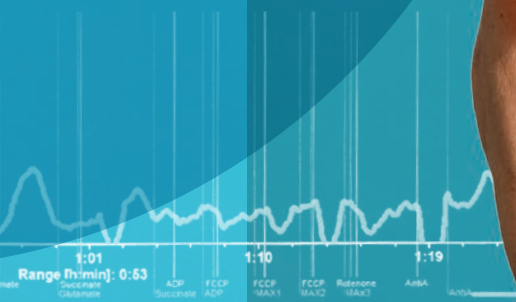
KO Red Gastroc



“

The heart pumps blood through the arteries, allowing it to travel all over the body. It's a very important process that happens every second of the day, so your arteries need to be in good condition.

5



seems to be two populations... S, however nothing can be... an have WT or KO phenot



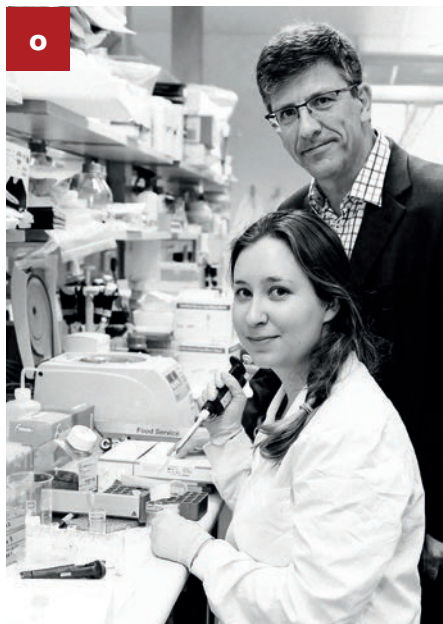
DIVISION

Vascular Biology



Stocker Laboratory

- Atherosclerosis
- Heart attack
- Stroke



o. Professor Roland Stocker with Honours Student Naomi McKinnon

Stocker Laboratory

Headed by

Prof Roland Stocker

Atherosclerosis is the biggest cause of heart attack, stroke and death in Australia.

It occurs when the walls of your arteries, which carry oxygen to your heart, become thick and stiff due to a build-up of fatty deposits. Overtime, atherosclerosis causes arteries to become hardened and restricts blood flow to the heart, which can be fatal.

Professor Roland Stocker and his team are trying to understand what goes wrong in the arteries, how they become diseased and how atherosclerosis can be prevented.

More specifically, atherosclerosis causes the biochemical mechanism that regulates blood flow to stop working. The Stocker Laboratory has discovered that when this occurs, a new mechanism is activated to help maintain blood flow.

Scientists are examining this new mechanism more closely to identify how it becomes active, because they believe this could be a powerful new way to restore and maintain blood flow to the heart in atherosclerosis.

Making a Difference

CHRIS

“

I was fit and healthy. I surfed, swam and ran, and I had a good diet. I was never sick... I was bulletproof! I thought how could this happen to me?



10%

If you suffer a cardiac arrest outside a hospital, the survival rate is 10%



P. Chris, heart attack and cardiac arrest survivor

Chris' Story

“A heart attack really does something to you that is beyond just your heart stopping... On my 60th birthday I was knocked off my surfboard and had a near drowning experience that lead to a massive heart attack. I was fit and healthy, I surfed, swam and ran, and I had a good diet. I was never sick... I was bulletproof! I thought how could this happen to me? Little did I know that the stress of my work, coupled with genetic heart issues meant my severe surf accident was the perfect trigger for my heart attack.

I had a cardiac arrest in the hospital the next day. When the monitor that indicates that you're still alive goes flat, and you get that beeeeeeep, it's beyond frightening! And in the chaos that was occurring, I suddenly went deaf. I couldn't hear and everything was quiet. I knew in a nanosecond, that this particular thing had changed me. I was completely different.”

Research Update

Headed by world leading professor, Richard Harvey, scientists at the Victor Chang Institute study cardiac regeneration and have discovered ways to limit damage to the heart following a heart attack. Stem cell research is also a major focus for our scientists, who are interested in understanding if and how stem cells can help regenerate a damaged heart.

Statement of Income and Expenditure

	2016 \$	2015 \$
For the year ended 31 December		
Income		
Grants	12,624,817	12,279,723
Donations and fundraising	7,367,783	5,414,514
Investment and other income	2,199,484	1,487,543
Total income	22,192,084	19,181,780
Expenses		
Research expenses	15,129,827	15,021,732
Administration expenses	5,783,627	5,825,034
Fundraising expenses ¹	1,310,438	1,140,293
Total expenses	22,223,893	21,987,059
(Deficit) before non operating income	(31,809)	(2,805,279)
Non operating income		
Unrealised gain on investment revaluation to market	208,422	(198,626)
Net surplus/(deficit) for the year	176,613	(3,003,905)

1. Fundraising expenses are funded from investment income, so that 100% of donations are used for research. Comparative figures have been adjusted to conform with changes in presentation for the current year.

The above is an extract from the 2016 audited Financial Statements. The extract does not include the information normally included in the financial statement. Accordingly, this extract is to be read in conjunction with the audited Financial Statements for the year ended 31 December 2016.

Achievements and Awards

Scientific Accolades

Professor Richard Harvey

Fellow

The Royal Society, London

Dr Daniela Stock

Fellow

Australian Academy of Science

Professor Roland Stocker

Fellow

Swiss Academy of
Medical Sciences



Professor Richard Harvey

Fellow

Australian Academy of
Health and Medical Science

Professor Roland Stocker

Fellow

Australian Academy of
Health and Medical Science

Professor Sally Dunwoodie

Finalist

2016 NSW Woman of the Year Award

Professor Robert Graham

*Ministerial Award for
Cardiovascular Research Excellence*
NSW Cardiovascular Research Network
and National Heart Foundation

Professor Robert Graham

10 of the Best Award
National Health and
Medical Research Council

Dr Joshua Ho

*2016 Young Tall Poppy
Science Award*
Australian Institute of Policy and Science





Victor Chang Community Awards

Victor Chang Award for Excellence in Cardiovascular Journalism 11
Melissa Davey, The Guardian Australia

Victor Chang Heart of Gold Awards 12
Eight everyday Australians honoured for helping save the life of someone in cardiac peril

Victor Chang School Science Award 13
Over 240 year 11 students across NSW commended for excelling in science



Victor Chang Institute Awards

Dr Charles Cox 7
Post Doctorate,
Martinac Laboratory
Paul Korner Seminar
Series Award

Annabelle Enriquez 8
Masters Student,
Dunwoodie Laboratory
Student Award

Justin Szot 8
PhD Student,
Dunwoodie Laboratory
Student Award

James Coleman 10
PhD Student,
Smith Laboratory
People's Choice Award

Georgi Glover
Media and
Communications Manager
Executive Director's Award

Ruth Zukerman 9
Supporter
Victor Chang
Ambassador Award



Fundraising Events

The Victor Chang Institute hosts three special events each year including the Bay Soiree, Women Against Heart Disease Lunch and the Heart Beat Ball. In addition we are fortunate enough to be the beneficiary of numerous community events. These events raise vital funds for our scientists and we would like to express our sincere thanks to all those who give generously.

A heartfelt night under the stars

MARCH 2016

Hosted in partnership with Watsons Bay Boutique Hotel, the exclusive Bay Soiree charity dinner was held on Watsons Bay Beach. Guests dined barefoot under the stars. The event raised over \$52,000 for the Victor Chang Scholarship Program to aid up and coming scientists in their quest to cure heart disease.

Western Australia shows heart

MARCH 2016

Members of Western Australia's medical and business communities boarded the Crown Perth yacht, Infinity 8, for a private and intimate cocktail function. Guests learnt about the Victor Chang Institute's vision – to strengthen cardiovascular research in WA, particularly in the field of childhood heart disease. The event raised \$300,000 which will fund our research in congenital heart defects.

Women rally against their silent killer

MAY 2016

Dedicated to the memory of Monica O'Loughlin, the Victor Chang Cardiac Research Institute hosted its fifth annual Women Against Heart Disease Luncheon. The event aims to raise greater awareness of heart disease in women, which alarmingly kills three times as many women as breast cancer in Australia. The event was held in partnership with the Commonwealth Bank's Women in Focus and raised an impressive \$66,900 for researchers at the Victor Chang Institute.



q

q. Guests at The Bay Soiree
r. Guests at the Women Against Heart Disease Luncheon



r

Cycling to help babies with sick hearts

MAY 2016

The Chain Reaction Challenge Foundation is a charity dedicated to helping sick children by uniting senior executives with a passion for cycling. More than 30 cyclists embarked on a gruelling seven day bike ride through Far North Queensland, raising \$380,000 for babies born with heart defects. Thanks to their generous funding, scientists at the Victor Chang Institute have established Australia's largest genetic research program into congenital heart disease.

The heart of the west

SEPTEMBER 2016

The Victor Chang Committee for Western Sydney was launched at the Western Sydney Business Connection State of the Region Address, Major Business Leaders Luncheon.

The Committee aims to raise awareness of heart disease in Western Sydney, educate the community and share the incredible research underway at the Victor Chang Institute.

We know that more than five million people are living in Western Sydney, and one in three of these families will be affected by heart disease. Above all we recognise the necessity to take good care of the heart of the west.

Roaring red twenties Heart Beat Ball

SEPTEMBER 2016

For the second year, the Victor Chang Heart Beat Ball was held at the magnificent Sydney Town Hall. The event was a sensation, raising over \$340,000 for scientists trying to find cures for childhood heart disease. Peter Overton did an exceptional job as Master of Ceremonies and guests were privileged to hear from young parents, Ashleigh and Daniel, who revealed the moment their world turned upside down after they found out their newborn baby had four holes in her heart.

The Australia China Business Council

THROUGHOUT 2016

In 2016 the Victor Chang Institute became a member of the Australia China Business Council (ACBC). The ACBC is the premier business organisation dedicated to promoting business and trade between Australia and the People's Republic of China. We welcome the opportunity to build the profile of the Victor Chang Institute in the Chinese community here and in China that the ACBC provides.



s. Cyclists from the Chain Reaction Foundation
t. Ashleigh and Daniel at the Heart Beat Ball



t

SOHN AUSTRALIA HEARTS & MINDS INVESTMENT LEADERS CONFERENCE

FRIDAY 11 NOVEMBER 2016



u. Panelists (from left to right) Joe Aston, Chris Kouritis, Robert Luciano, Anthony Aboud and Phil King
v. Master of Ceremonies, Dr Nikki Stamp



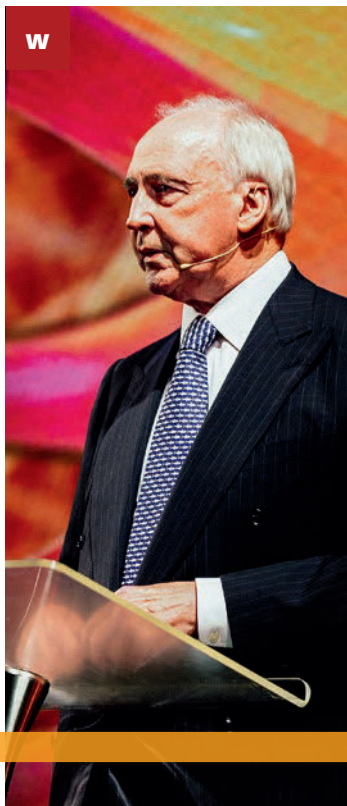
Sohn Australia Hearts & Minds Investment Leaders Conference

This year, the inaugural Sohn Australia Hearts & Minds Investment Leaders Conference was held at the Sydney Opera House in November. The conference featured the best and brightest investment gurus from Australia and around the world, who shared their single greatest investment concept to a sell-out audience.

SYDNEY, AUSTRALIA



w. The Hon. Paul Keating, former Prime Minister of Australia



SYDNEY OPERA HOUSE



x. Dr Anita Ayer from the Victor Chang Institute

The impressive line-up of speakers included; The Hon. Paul Keating, former Prime Minister of Australia; Victor Chang Board Member, and Co-Founder of Magellan Financial Group, Hamish Douglass; and Founder and Co-Chairman of Oaktree, Howard Marks.

The inaugural event was inspired by the annual Sohn Investment Conference, which is regarded as one of the world's premier investment events.

Renowned investor and Victor Chang Board Member, Dr Gary Weiss, is a regular attendee of the global event and rallied the investment community in Australia to the worthy cause.

The Sohn Australia Hearts & Minds Investment Leaders Conference provided a unique opportunity for the business community in Australia to drive awareness and understand the need for medical research.

The day was exceptionally well received with more than 500 investors attending the conference. The event raised approximately \$2 million which was shared amongst the Victor Chang Cardiac Research Institute, Black Dog Institute, MS Research Australia and Juvenile Diabetes Research Foundation.



Victor Chang Health Check Booth

The Victor Chang Health Check Booth travels to commercial and community locations in Australia, to screen people for key heart disease risk factors.

Staffed with ten registered nurses, the Health Check Booth tests blood pressure, blood sugar and blood cholesterol levels.

Our major corporate partners are HCF and IMB Community Foundation.

For all enquiries or to book the Victor Chang Health Check Booth, please email Jayne Baric: hcbteam@victorchang.edu.au



2016 Results

46,000 Australians tested	11,900 new participants tested	86 locations	4 states
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30% had high cholesterol	31% were encouraged to visit their GP
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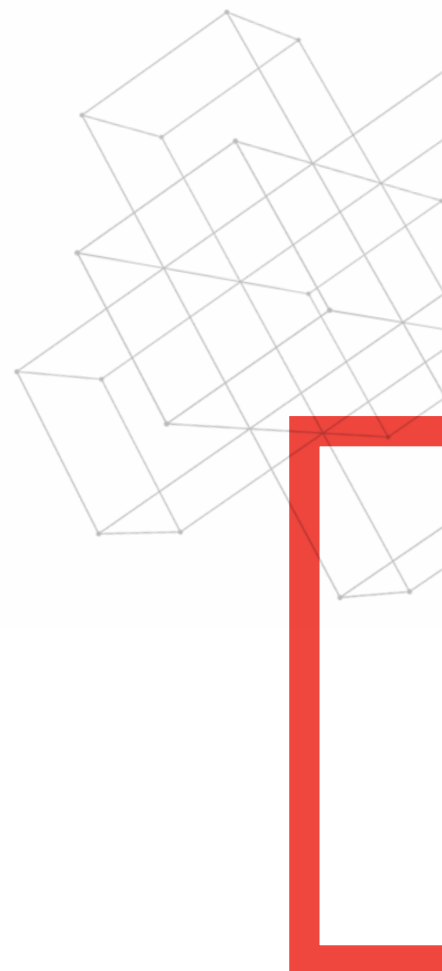
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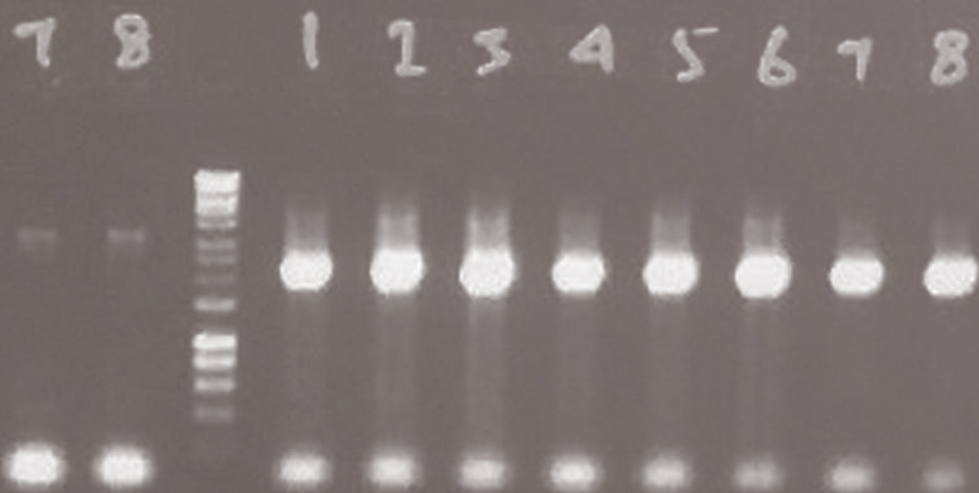
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