

2015-2016

# SVI YEAR



DIFFERENT



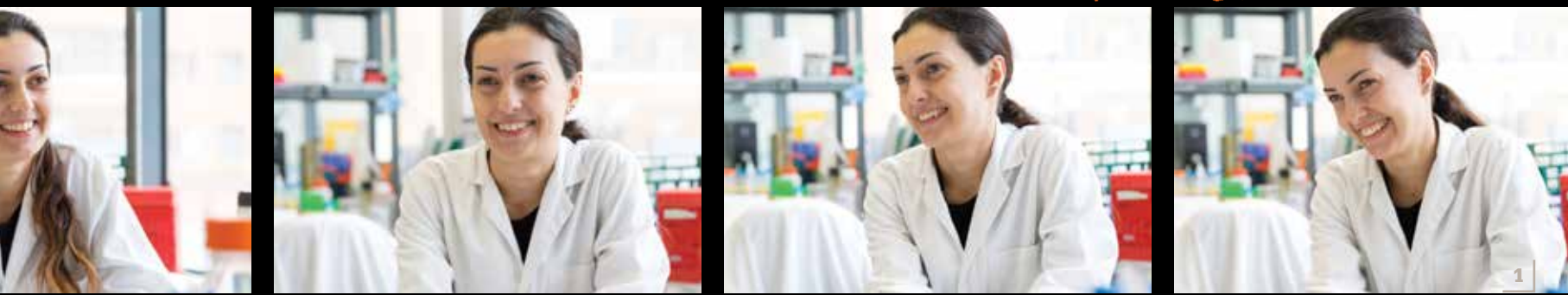
SKILLS,



SAME



GOALS.





# THIS IS SVI

For more than 50 years, researchers at St Vincent's Institute (SVI) have been conducting medical research into the cause, prevention and treatment of common diseases. SVI is committed to improving the health and life expectancy of Australians through medical research.

## RESEARCHING

- Type 1 diabetes
- Cancer
- Obesity & type 2 diabetes
- Heart disease
- Arthritis & osteoporosis
- Infectious disease
- Alzheimer's disease

DIRECTOR'S REPORT

CANCER RESEARCH  
STEM CELL REGULATION, MOLECULAR GENETICS, GENOME STABILITY,  
O'BRIEN INSTITUTE DEPARTMENT

IMMUNOLOGY & DIABETES UNIT

PROTEIN CHEMISTRY & METABOLISM UNIT

STRUCTURAL BIOLOGY UNIT

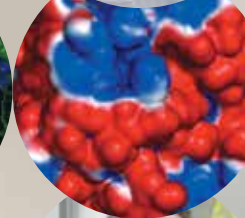
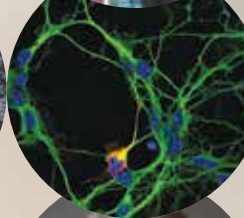
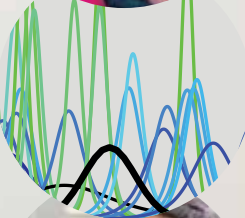
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1D

2D

SB



**BONE CELL BIOLOGY &  
DISEASE UNIT**

**HEART DISEASE RESEARCH  
MOLECULAR CARDIOLOGY,  
O'BRIEN INSTITUTE DEPARTMENT**

**STAFF**

**FINANCE**

**BEQUESTS**

**DISCOVERY FUND**

**DONORS**

**BD**

**HD**

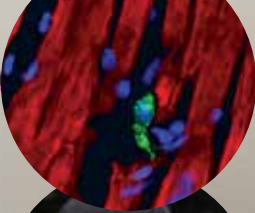
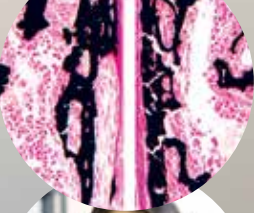
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# SUCCESSFUL RESEARCH REQUIRES BIG, BOLD IDEAS.

But more often than not it progresses slowly; with small, unsure steps, turning back and reinventing itself along the way. Our Deputy Director, Michael Parker, likens progress in medical research to a game of snakes and ladders. If things go well, you rapidly ascend a ladder that takes you closer to the answer, but more often than you would like you will find yourself circling back towards the beginning.

One key to success in medical research is to surround yourself with people who think differently from you, a team with varied background, skills and experience. It is this ingredient – diversity – that is featured in this Report. Alongside the research highlights of the last year, you will read about Fei Fei Gong, a clinical cardiologist who is doing her PhD; Craig Morton, a postdoc who has worked both in academia and the biotechnology industry; and Bruce Kemp, whose years of academic research experience have recently been rewarded with the 2016 Leach Medal. You will also read about Niloufar Ansari, an Iranian pharmacist who is becoming expert in bone biology; Charlotte Hodson, a protein crystallographer from London; and

Associate Professor Helen Thomas, who began her career studying the common fruit fly, but whose experience has more recently been instrumental to the success of the Australian Islet Transplantation Program.

Obtaining grants for research from the National Health and Medical Research Council (NHMRC) in the last year has remained very tough (about a one in eight success rate in 2015). However, the year saw us welcome the birth of the Medical Research Future Fund (MRFF), which passed the Senate in August. We thank the Federal Government for their initiative and determination to see it become a reality. The MRFF will establish a capital fund of \$20 billion with the income being spent on medical research. It will be several years before the MRFF distributes the full amount that is expected to double Federal funding for medical research.

It is likely that the MRFF will reward diversity – researchers who are also endeavouring to seek funds from other sources such as clinical translation, industry engagement and philanthropy. The days of relying solely on government support are very much over and SVI will

continue to seek funds from diverse sources to help us make discoveries that will improve the health of the community.

This challenge requires a new approach to how we work and the Aikenhead Centre for Medical Discovery (ACMD) is a great opportunity to do just this. The ACMD is a collaborative hub on the St Vincent's campus centred on efficient use of scarce resources through sharing, and on formation of multi-disciplinary project teams to tackle clinically important problems. There will be a strong focus on the input of clinicians and industry into these projects and on achieving clinically valuable outcomes. We hear a lot about the need for Australian research and industry to work closely together and the goal of the ACMD is to enable this interaction. We are especially grateful to the Victorian State Government for their financial commitment to the project and their interest in our work.

We would like to acknowledge the dedication of our Board members over the last year. Particular thanks goes to Mr Anthony Mancini, Mr Ben Fielding and Professor Stephen Smith, who have left the SVI Board in the last 12 months.



Thanks also to the Victorian State Government for their Operational Infrastructure Support Scheme, the Federal Government, the Trustees of the Mary Aikenhead Ministries, The University of Melbourne and St. Vincent's Hospital Melbourne.

SVI is in very good hands today with an excellent Board and Foundation Board, sound finances and outstanding staff. We have a great reputation in the scientific community for our high quality research and our integrity. Our goal, as ever, is to improve the treatment of common diseases and to do so we need to nurture the scientists who contribute so much. We hope that you will help us go on to greater things in collaboration with our many partners, especially those on our campus. Thanks to you all for your help and support over the past year.

A handwritten signature in cursive script that reads "Tom Kay".

Tom Kay  
SVI Director

A handwritten signature in cursive script that reads "Brenda M. Shanahan".

Brenda Shanahan  
Chair, SVI Board



C

**CANCER RESEARCH****STEM CELL REGULATION, MOLECULAR GENETICS, GENOME STABILITY, O'BRIEN INSTITUTE DEPARTMENT**

CANCER

Phil



**Tach's husband Phil was 42 when he was diagnosed with acute lymphoblastic leukaemia.** "Phil had presented to his GP with a sore throat.

They did a blood test on the Wednesday morning and by 10.30am he had been admitted to the hospital in Launceston, which was to become our second home for the next 7 months.

We were in total disbelief and denial when we first got the diagnosis of acute lymphoblastic leukaemia. Telling the kids (Charlea, then 11 and Beau, 8) was the second most difficult thing we did (the hardest was telling them the cancer had returned). We were incredibly frightened ourselves and had no idea of what lay ahead of us.

Leukaemia is a very lonely disease because of how it attacks your immune system. We became fearful of Phil picking up an infection – isolating ourselves and even isolating the children from their Dad – something no parent should have to do. Masks became part of our wardrobe and our home became a small pharmacy with antibacterial hand gel placed in every room. The fear at times was consuming and exhausting.

After 7 months, we relocated our whole lives – including new schools for the kids – interstate to Peter Mac for total body irradiation prior to a gruelling bone marrow transplant at the Royal Melbourne Hospital.

Phil lost his long and courageous battle with leukaemia in January 2015. One of his final wishes was for us to raise awareness of the disease. For the most part our journey is over as Phil is no longer with us. However, now for our family it is about Phil's legacy, his passion for life and his love for us that we are determined to make a difference with medical research and to help find better treatments, better chemotherapy regimes with

less side effects and ultimately the cure. It's about making a difference to other people who sadly will take the same journey we did.

And so Phil's Dive for a Cure was born. Phil's final wish was to hold an event to raise much-needed funds for the Leukaemia Foundation in gratitude for the continued and dedicated support we received throughout the battle. The event encompassed a dive, paddle and swim. The dive was led by 15 year old Charlea and 12 year old Beau in honour of their Dad.

Fundraising efforts smashed the original goal of \$5,000 and the total raised was over \$35,354, with the support of many local small businesses sponsoring the event. The funding was directed towards SVI's Dr Jess Holien through her Leukaemia Foundation-funded project, which aims to design new drugs to treat leukaemia."

You can follow Phil's Dive for a Cure 2016 (and join the effort) on Facebook: <https://www.facebook.com/philsdiveforcure>

**Cancer**

**Cancer is a complex and varied disease, which is why researchers at SVI approach it from different angles. The Stem Cell Regulation Unit researches the role of stem cells; the Molecular Genetics and Genome Stability Units focus on ways to protect our cells from cancer; and the O'Brien Institute Department focuses on complications of cancer survivorship.**

# The cell's security guard

The immune system is the cell's first line of defence against attack by a virus. In order for this defence system to work, the cell must first be able to recognise a virus as 'foreign'. In 2015, Associate Professor Carl Walkley, his then PhD student Brian Liddicoat and colleagues discovered how a protein called ADAR1 allows the cell to do just this.

The findings were published in 2015 in the journal *Science*.

Carl explains that our cells have developed very sophisticated methods to protect us from infection by viruses. One of the ways the cell does this is via an early warning system that jolts the immune system into evasive action when it recognises the presence of foreign RNA (within which certain viruses encode their genetic material).

The complication is that the cell also uses RNA as a messenger to communicate the information contained in our

genes to the rest of the cell. So how does the cell tell the difference between viral RNA and its own RNA?

The team showed that it uses ADAR1 to tag its RNA molecules with a distinct chemical signal – a 'me' signal.

Carl says "In essence, ADAR1 works like a security guard; it issues passes for people who work in the building and authorises their presence. This allows the system to set off an alarm when an unauthorised person (i.e. viral RNA) enters the building."

Carl explains that the group honed in on the specific function of ADAR1 by mutating a key portion of the protein.

"When ADAR1 was mutated, we found that the cell reacted as if it was infected by a virus even when there was no infection present. We believe

this is because the cell's alarm system, in this case a protein called MDA5, was recognising its own RNA as foreign."

Mutations in the ADAR1 gene have been linked to an autoimmune disorder called Aicardi-Goutières Syndrome. The early-onset disease affects the brain and skin and those affected can have significant intellectual and physical problems. The syndrome is rare and can be caused by mutations in a number of genes, including ADAR1.

This discovery sheds new light on the important distinction between self and non self in the cell and explains how defects in these pathways can have catastrophic effects for those unlucky enough to inherit a mutated version of ADAR1.

OUR CELLS HAVE  
DEVELOPED VERY  
SOPHISTICATED  
METHODS TO  
PROTECT US FROM  
DANGERS IN THE  
ENVIRONMENT...



## THE TALENT CHARLOTTE HODSON GENOME STABILITY UNIT

Dr Charlotte Hodson describes herself as a details person. She started her research career at the London Research Institute, keen to learn the intricate details of protein crystallography. Her PhD project focused on determining the three-dimensional structure of a protein called FANCL.

FANCL is one of a family of 19 proteins, called the Fanconi Anaemia (FANC) proteins, which are involved in repairing damage to DNA. Mutations in any one of these proteins can lead to the rare genetic disease Fanconi Anaemia. People with the disease are particularly prone to the development of cancer because their cells can't repair DNA damage.

Charlotte came to Australia from London 2 years ago to work with Dr Andrew Deans in SVI's Genome Stability Unit. She knew Andrew from his post-

doctoral training in London and was interested in his biochemical approach to understanding how the different FANC protein family members interact with each other and with DNA.

She explains, "The FANC proteins form an incredibly sophisticated machine, working in concert with each other to identify and repair DNA damage. They are important because our DNA is constantly under attack, just in the normal course of our lives – for example, from UV light or exposure to cigarette smoke. FANC proteins are tasked with repairing the damage, which protects us from developing cancer. Understanding how they work will aid people with Fanconi Anemia, and will also help us to develop better chemotherapies for different types of cancer."

She says that after she solved the three-dimensional structure of FANCL

in her PhD she became curious about how the different FANC proteins interacted with each other and with DNA to repair damage.

A particular feature of the interaction between DNA and its chemical cousin RNA, called R-loops, currently occupies her time. She explains that R-loops form a type of roadblock that can stop correct copies of DNA from being made. It appears that specific members of the FANC proteins scan the DNA for R-loops and swoop in and remove them before they can cause problems.

Charlotte is trying to isolate this interaction in the test tube – removing it from the confounding chemical swamp of the cell – to find out the details of exactly how the FANC proteins work together.



## TOP STUDENTS RECEIVE TOP-UP SUPPORT

**SVI's students are mentored by expert scientists to hone the skills needed to combat common diseases. For the last 26 years, SVI's students have been supported by the dedicated SVI Support Group.**



*Images (left to right): Scholarship recipients at the SVI Support Group's Black Tie Dinner; the students at their retreat; the SVI Support Group; scholarship recipient Jasmina Markulic*

SVI's Support Group held its 2015 Annual Black Tie Dinner at The Athenaeum Club on October 15th. In the 26 years since its inception, the Group has raised more than \$400,000 to support SVI Student Scholarships.

Joined by this year's cohort of SVI Student Scholarship recipients, attendees heard from SVI Support Group Chair, Claire O'Callaghan, SVI Director Tom Kay and Student Scholarship recipient Ashleigh King.

Ashleigh thanked the SVI Support Group, whose fundraising efforts have supported 31 Honours and 41 PhD students to date.

Ashleigh said, "I was lucky enough to be awarded

an SVI Foundation scholarship last year, which gives me an additional \$5,000 annually. Without this I wouldn't be able to cover the cost of rent, food, and my ever-increasing living expenses. As research students, so much of our time during the week and on weekends is dedicated to our experiments, that finding casual or part-time work isn't really an option. So the money that you generously donate means more than you know."

For some of the recipients, their SVI Student Scholarship will be the first of the many accolades they will receive over their careers.

On the night, Claire said that the Group is proud to be investing in the future of

medical research for the community.

SVI would like to acknowledge all those who have donated to scholarships at the Institute, and especially thank the SVI Support Group for their 26 years of support.

**To support the Top-up Scholarship Program or name a Scholarship in honour of a loved one, contact the SVI Foundation on (03) 9231 2480 or email us at [foundation@svi.edu.au](mailto:foundation@svi.edu.au)**

### **SVI Support Group members:**

Mrs Margaret Batrouney  
Mrs Colleen Bolton  
Mrs Maureen Breheny  
Mrs Cathy Clancy  
Ms Bernadette Dennis  
Mrs Cathy Gilbert  
Mrs Angela Griss  
Mrs Barbara Handley  
Mrs Carole Hart  
Mrs Jo Lonergan  
Mrs Gail McHale  
Mrs Claire O'Callaghan  
Mrs Geraldine Peck  
Mrs Margaret Reeves  
Mrs Dawn Hill-Regan  
Mrs Judy Ryan  
Mrs Christina Westmore-Peyton  
Mrs Therese Whiting  
Mrs Thecla Xipell

Justin



**Justin Galvin was almost 3 years old when he was diagnosed with type 1 diabetes.** “I remember my bladder feeling extremely full and not being able to hold on.

I then remember being hastily carried by my mother to the toilet. My auntie, who witnessed the event, also has a son with type 1 diabetes. She advised my mother to rush me to the hospital, and the next memory I have is sitting in the hospital bed at night whilst my distressed mother sat in the chair next to my bed until morning.

My grandma on my mother’s side also has type 1 diabetes; my family was devastated when I was diagnosed. I feel lucky though, to have had my auntie detect the symptoms early and for my parents to have some support and guidance on what to do.

I haven’t let type 1 diabetes keep me from having a full life. I was very active when I was growing up and was involved in lots of school sports and local sporting clubs including swimming, athletics, tennis, kickboxing, rugby league, basketball, and many more. On top of this I was riding my bike every day after school. I feel this is what has kept my diabetes in check.

Furthermore, my primary school teachers were very kind and helpful. I remember in Year 1 the librarian would come and get me from class if I had high blood glucose levels. She would take me to the library to help organise the books for some exercise.

I have always been on insulin injections, but I would love to move onto an insulin pump to better control my blood glucose readings, especially now as I have a mostly sedentary lifestyle studying. When I finish my medical course I’d like to have the freedom to pursue any specialty without my health limiting

me. Unfortunately, an insulin pump is quite expensive and this has prevented me from being able to purchase one.

I’m quite worried about complications from my diabetes. After undertaking research in the field and having a girlfriend also studying medicine, I’ve become more aware of the terrible outcomes of this disease. My worry is losing my sight or needing to go on kidney dialysis; I want to live a long and healthy life.

As a researcher, I did Honours at SVI and I have undertaken some work experience in the endocrinology department at the Children’s Hospital, Westmead, for a winter vacation project. I hope to continue research projects/work experience during university holidays, and to incorporate research into my future clinical career.

I hope that more funding is put into medical research, and that one day there is a cure for those who currently live with the condition. In the meantime, I would like to see some advancement in technology so that insulin can be administered safely in a non-invasive way.”

#### **Type 1 diabetes**

**Researchers at SVI are dedicated to finding effective prevention and treatment strategies for type 1 diabetes. They use both mouse and human cells to study the causes and mechanisms of the disease, as well as exploring new treatment options.**



## THE RESEARCH IMMUNOLOGY & DIABETES UNIT

# First steps

SVI's Associate Professor Stuart Mannering and his colleagues from the University of Colorado recently identified what may be the initial target of the immune response that causes type 1 diabetes. The discovery provides a plausible explanation for why the immune system mistakenly destroys the body's insulin-producing cells.

When our immune system is functioning properly, it protects us against "invaders" that might make us sick, such as bacteria and viruses. But in people with autoimmune diseases, the immune system attacks healthy parts of the body.

In type 1 diabetes, the cells that secrete insulin, called beta cells, are the target of the immune system's attack. Beta cells live in small clumps of cells called islets, within the pancreas.

In research published in the prestigious journal *Science* in early 2016, the team showed that fragments of two different beta-cell proteins, called peptides, join together to create a hybrid peptide. This hybrid is recognised as

foreign by the immune system's T cells, and may be one of the early steps in the immune cascade that eventually destroys the beta cells and causes type 1 diabetes.

University of Colorado researchers Professor Kathryn Haskins and Assistant Professor Thomas Delong identified the hybrid peptides in a type of mouse that develops type 1 diabetes. However, they needed to determine if their findings held true in humans.

They turned to Stuart for help.

Stuart's team was the first in the world to isolate human T cells from the pancreas of organ donors who had type 1 diabetes. He says that his group has been using these T cells as a tool to dissect what they recognise and respond to within the human beta cells.

"When we tested the hybrid peptide identified by the American group with T cells from islets of organ donors who had

type 1 diabetes, some of the T cells responded vigorously. It is like a police line-up. The T cells only recognise hybrid peptides that they have met before. The fact that the T cells reacted to the hybrid peptide meant that we were on the right track."

Stuart says that the work provides a new paradigm for understanding how the immune system might be mistakenly destroying the body's cells in type 1 diabetes. If the hybrid peptides turn out

to be the targets of the initial immune response, the researchers will be able to start working on strategies to use them to halt the disease.

"We may have found one of the early steps in the development of type 1 diabetes.

This seemingly innocuous event

- two peptide fragments joining together within the beta cell - gives us new avenues to pursue in order to find ways to combat type 1 diabetes."

WE MAY HAVE  
FOUND ONE OF THE  
EARLY STEPS IN  
THE DEVELOPMENT  
OF TYPE 1 DIABETES



**THE TALENT  
HELEN THOMAS  
IMMUNOLOGY & DIABETES UNIT**

Even though Associate Professor Helen Thomas comes from a ‘medical family’, with a father and two older sisters deeply embedded in the medical field, at the outset of her career she was more interested in basic science than human disease.

One of her first jobs out of university was as a research assistant in Heidelberg, Germany, where she was researching the binding dynamics of a type of hormone receptor that is found in *Drosophila melanogaster*, the common fruit fly.

It was during her PhD studies that she became an expert in the manipulation of mouse models that mirrored type 1 diabetes.

She says, “Type 1 diabetes is difficult to study in humans because people don’t develop symptoms until well after the immune system has done its damage.

For this reason, much of my research has been performed in animal models of the disease.”

In early 2016, Helen was awarded two grants from the Juvenile Diabetes Research Foundation (JDRF). The funding will help her team explore the triggers of the disease.

“We don’t yet understand why the immune system destroys the insulin-secreting cells in type 1 diabetes, but we have discovered a possible trigger from within the patients’ own cells. Understanding the very early events in the development of the disease may indicate ways to detect it before symptoms develop, or suggest ways to prevent it early on.”

Over time, Helen’s work has focused much more on people with type 1 diabetes. Her expertise has been instrumental to the development of the

Australian Islet Transplantation Program. Islet transplantation is a procedure in which insulin-producing islets are extracted from deceased organ donors and transplanted into a recipient’s liver, where they secrete insulin into the bloodstream. The Program is directed at people with unstable type 1 diabetes that causes life-threatening hypoglycaemia (very low blood glucose) that cannot be corrected with insulin.

To date, the Program has resulted in 42 people with type 1 diabetes being transplanted with islets, many of whom are now no longer dependent on insulin injections.

Helen says, “One of the most exciting things for me has been to see the lives of people with type 1 diabetes transformed thanks to our research.”

You can’t get much more human than that.



## SUPPORTER ACTIVITIES

Thanks to all of our generous supporters, who are as diverse as the research we undertake.



Images (left to right): Tina Arena, Susan Alberti AC and The Hon Julie Bishop MP at the SAMRF Gala Ball; The SAMRF Gala Ball; Prof Tom Kay, Dr Sue Best and Dr Philip Morris AO, HMSTrust Chairman of Trustees; the opening of the HMSTrust Biobank; revellers at the YLC Science Freaktion event

One of Melbourne's most prestigious social events, the Susan Alberti Medical Research Foundation Signature Ball, reached an historic milestone with its 30th anniversary on Saturday August 22nd, 2015. A video welcome from former Prime Minister the Hon Tony Abbott MP, and a heart-felt endorsement from special guest The Hon Julie Bishop MP, set the tone for an evening which included world-class entertainment by the Australian Ballet, musical director Chong Lim and his orchestra and a breathtaking performance from Tina Arena.

The launch of the HMSTrust Biobank in September was another

highlight for SVI in 2015. A Biobank is a facility that allows the storage and collection of human blood and tissue samples that can help researchers confirm or clarify results in human tissues, which may then lead to new treatments. The Biobank was made possible because of the support of the Helen Macpherson Smith (HMS) Trust, the Marian and E.H. Flack Trust and St Vincent's Hospital Melbourne.

The Breakthrough Group celebrated their third birthday with two events: Jazz in the Labs, held at SVI, and a 'Spectre' Movie Night. The group raised \$10,700 for SVI in 2015. Thirty guests attended the Jazz event,

which was catered by committee member Jessica Carelli. The evening was great fun and garnered much praise from all attendees. Sipping on champagne while having a (semi) private audience with James Bond seemed to appeal to some supporters' inner risk-taker, as evidenced by the 130 movie-goers who attended the screening 'Spectre' at Melbourne's Palace Kino Cinema. A screening of SVI's own video left guests stirred up about medical research, but not shaken. You can keep up with the Breakthrough Group's events by liking their Facebook at [www.facebook.com/SVIBreakthroughCommittee/](http://www.facebook.com/SVIBreakthroughCommittee/).

We received \$8,000 towards our type 1 diabetes research due to the efforts of YLC Victoria through their Science Freaktion event held on October 31st. Thanks to their generous supporters, including Face Painting Melbourne, Caveira Photography and performer Heather Bloom, as well as all of those who attended or donated to the event.

**If you would like to know more about how you can support SVI, contact the SVI Foundation on (03) 9231 2480 or email us at [foundation@svi.edu.au](mailto:foundation@svi.edu.au)**

Chrysi



**Chrysi was 37 years old when she was diagnosed with pre-diabetes.** “I didn’t have any symptoms.

I had a miscarriage and while searching for what caused it, the doctors found out that I had pre-diabetes. In the subsequent years I had more miscarriages.

My whole family has type 2 diabetes, both from my mother’s and from my father’s side. I have uncles and cousins who went blind, are doing dialysis, or are on insulin treatment. Nobody was surprised that I had diabetes.

I used to manage my condition better in the past, most of the time without the need to take any medication, only with exercise and diet. However, during the last 5 years I have had to start taking medication and unfortunately, in the last few years it has gotten worse, even with the medication.

I have many worries about living with type 2 diabetes; I really hope that I will manage to control my blood sugar levels without the use of insulin and without any health complications.

I am not all that optimistic about medical research findings in the near future... new medicines take time to develop. Furthermore, some of them might have side effects and might be able to offer only somewhat limited help when it comes to effectively regulating diabetes levels.

My hope is focused in the field of community education and in

raising awareness around issues like sugar consumption, eating disorders and media issues such as promotion of unrealistic body images.

My partner, Kostas, never had to address a health issue such as diabetes prior to my diagnosis. He wasn’t really aware of the direct and indirect impact that diabetes has on your everyday life and how it can impact your future health.

He reckons that the successful fight (to manage diabetes) requires a lot of self-discipline, not only from the one who has the condition, but also from his/her family and workplace. Managing diabetes requires understanding, encouragement and support.”

#### **Type 2 diabetes**

**The major focus of research in SVI’s Protein Chemistry and Metabolism Unit is an enzyme called AMP-activated protein kinase (AMPK). AMPK acts as the body’s fuel gauge, controlling fat synthesis, glucose uptake, cholesterol synthesis and cell division. SVI researchers are investigating the effects of AMPK at the whole body and single cell level to develop therapies that may benefit the many Australians living with type 2 diabetes.**



## THE RESEARCH PROTEIN CHEMISTRY & METABOLISM UNIT

# Pathways to health

In 2015, researchers from SVI's Protein Chemistry and Metabolism Unit, in collaboration with a team from Duke University in the USA, found that loss of the enzyme CaMKK2 causes anxiety and manic-like behaviour in mice.

CaMKK2 is found in the brain and acts as a molecular switch, decoding chemical signals initiated by calcium to control a range of important bodily functions. The SVI researchers were initially interested in CaMKK2 because it activates their 'favourite' protein, an enzyme called AMP-activated protein kinase (AMPK). Their research has shown that AMPK acts as the body's energy gauge, and that it also has a surprising number of other roles in the body.

Mutations in CaMKK2 have been linked with anxiety, bipolar disorder and schizophrenia as well as other diseases of the brain in humans.

SVI's Dr John Scott and Professor Bruce Kemp, with colleagues at Duke University in North Carolina led by Dr Anthony Means of the Department of Pharmacology and Cancer Biology, have been studying how CaMKK2 works at the molecular level. The research, published in the journal *Scientific Reports*, is the first to show a direct link between loss of CaMKK2 and anxiety.

John says, "It has previously been shown in human genetic studies that CaMKK2 was linked with anxiety and bipolar disorder, suggesting that it may play a role in the disease, but no direct link has ever been shown. In order to test this, we mutated the enzyme to stop it from working in mice."

THIS WORK WILL  
HELP US TO UNPICK  
THE COMPLICATED  
PATHWAYS  
INVOLVED IN  
MENTAL HEALTH  
CONDITIONS

"When our Duke colleagues analysed mice lacking CaMKK2, we found that they exhibited anxiety and behavioural disturbances similar to those observed in humans with these disorders."

Professor William Wetsel from Duke University Department of Psychiatry and Behavioral Sciences, said, "This work, the result of a great international collaboration, will help us to unpick the complicated pathways involved in mental health conditions and may help us to develop new and more sophisticated treatments for behavioural disorders ranging from anxiety to schizophrenia."

Anxiety is one of the most common mental health conditions. It affects around 1 in 4 people in Australia and the USA and places a large social and financial burden on society.



## THE TALENT BRUCE KEMP PROTEIN CHEMISTRY & METABOLISM UNIT

In early 2016 Professor Bruce Kemp was awarded the prestigious 2016 Leach Medal. He joins a list of accomplished recipients, including Elizabeth Blackburn, David de Kretser, Don Metcalf and SVI's Jack Martin.

By any metric Bruce's work has had an enormous impact internationally. His laboratory has tackled fundamental problems in the regulation of metabolism and signal transduction, exploiting the full spectrum of techniques available, ranging from protein chemistry, biochemistry, structural biology, physiology and genetically modified mice.

Bruce did his PhD studies at Flinders University in Adelaide in the 1970s. His PhD project focused on a type of protein called a kinase. He explains that kinases direct the activity, localisation and overall

function of many proteins.

"My project was based around a published study and after 18 months I found that the paper was wrong and essentially I had to start from the beginning. It was a very instructive way to start a career in science!"

His PhD was productive, even by his own high standards, with six papers published, including one in the journal *Nature*. He then spent two years with Edwin Krebs – who was awarded a Nobel Prize in 1992 for his work on kinases – at UC Davis in California.

Bruce still feels the same fascination for the fundamental questions in cellular signalling that he developed during his PhD. He says, "I still have my lab books from 1974-76, which document the experiments that led to what I consider

my first breakthrough - the first time I solved a real problem. The paper, published in 1975, showed how protein kinases recognised their target proteins. This gave me the confidence to look at further questions and was the catalyst for the work that has formed the basis of much of my career."

His fascination with kinases has not diminished over the ensuing years. "I guess you could say that I have native curiosity. I just love the details and how they work in a rational way. What I like about research most is the revelation – the moment you get a new piece of data your brain is rewired in a way. Sometimes you might be on the right track about how something works, but when you actually see the proof of it in detail it is majestic."



## SVI EVENTS

We hold a range of events throughout the year to share our success stories, thank supporters and raise additional funds for research.



Images (left to right): Speakers at the Food Matters event; the 2015 SVI Forum; guests at Terminus at Flinders Hotel; guests at 'SVI Uncorked'; Professor Sir Marc Feldmann presents at the SVI Forum

We are grateful to the Inge family and Terminus at Flinders Hotel for hosting our 'Pinot Prescription: 5 drops a day keeps the doctor away' lunch in May 2015. Their director of wine, Raúl Moreno Yagüe, one of Australia's leading sommeliers, led guests through the wines which accompanied a stunning four-course lunch.

In November, SVI and sponsor Treasury Wines held 'SVI Uncorked', a Penfolds Collection Masterclass. Jamie Sach, Penfolds Global Ambassador, provided his expertise and insight, guiding guests as they sampled some of the best wines in the world, whilst hearing about SVI's pioneering medical research.

2015's Friends of SVI event, entitled "Fit and Fat: weighing up obesity" was attended by supporters interested to hear the debate between Professor Jo Salmon, Deputy Director of the Centre for Physical Activity and Nutrition at Deakin University and Jane Martin, Executive Manager of the Obesity Policy Coalition. Bernadette Dennis, Chair of the Friends of SVI, welcomed guests to the event and introduced the MC, SVI Board Member Karen Inge. As an accredited practising dietitian who provides specialist nutrition comments to media, Karen was well placed to direct the lively discussion that followed formal presentations.

On Monday May 25, more than 200 guests at SVI's Annual Forum learnt about the therapeutic revolution underway in medical research and treatment. The speakers included SVI Director Professor Tom Kay; SVI Patron Professor Sir Gustav Nossal; keynote speaker Professor Sir Marc Feldmann from Oxford University; orthopaedic surgeon Professor Peter Choong, Sir Hugh Devine Chair of Surgery at St Vincent's Hospital Melbourne, and Professor Michael Parker, Head of SVI's Structural Biology Unit. The presenters then joined a panel with Professor Geoff McColl, Head of the Melbourne Medical School and

Professor Mark Cook, Chair of Medicine at St Vincent's Hospital, fielding questions from the audience about today's 'therapeutic revolution'.

Thanks to all of the participants, hosts and sponsors who attended SVI events in the past year.

**If you would like to be informed of SVI events, please contact the SVI Foundation on (03) 9231 2480, or email us at [foundation@svi.edu.au](mailto:foundation@svi.edu.au).**

 [facebook.com/SVIResearch](https://www.facebook.com/SVIResearch)

 [@SVIResearch](https://twitter.com/SVIResearch)

Columba

**Paul's wife, Columba, was diagnosed with Alzheimer's disease in her late 60s.** "We met in London in 1958. Columba was studying anaesthetics and I was studying surgery.



Many years later, Columba was diagnosed with Alzheimer's after we noticed her increasing memory loss. She was also not driving as safely and her golf had gone off a lot! There is a family history on her side; her father and younger sister both had Alzheimer's for at least 10 years.

Columba coped reasonably well when told of her diagnosis because she knew the disease and understood the prognosis. The family and I reacted as well as we could, but knew it would be an ongoing saga and get worse.

The main worry for the family was her continuing to drive her car. We arranged two family meetings asking her to get rid of it but she walked out of both. About 8 years ago we were overseas and the family rang and said, "We have got rid of Mum's car!"

Alzheimer's has changed our living situation and lifestyle tremendously. Our six children and our friends have been very good about it although the impact on the family has, not unexpectedly, been reasonably dramatic.

We moved into retirement apartments approximately 5 years ago, but after a few months we were asked to leave because Columba was wandering around at night, especially onto the street. She then went to a nursing home, but after 3 months she had to leave because she was wandering into other people's rooms. We eventually got her into a dementia area in another home where there are about ten patients, most of whom cannot walk or talk.

Her future is not good, but she has survived Alzheimer's for over 10 years and this is more than what we might have expected. I go and see her every second or third day for an hour or so and try to take her for a walk, but mainly inside the building now, not outside. She can't feed herself and tends to drop things a lot, but has not had any falls. It is almost impossible to converse with her, as her speaking ability is very, very minimal.

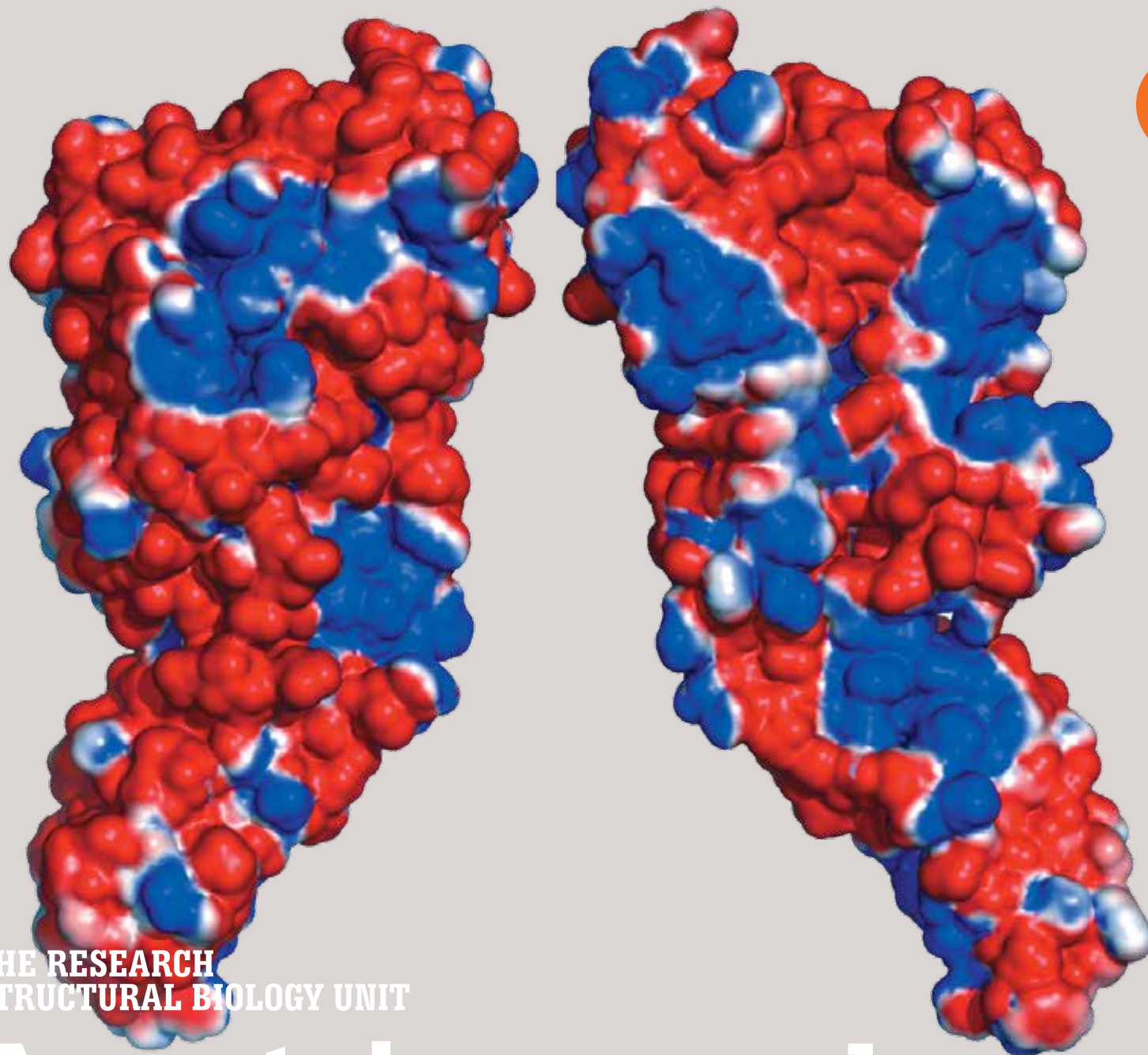
It certainly is a nasty ongoing disease and more and more people will start suffering from it as we all get older.

I would hope that medical research can help. I went to St Vincent's Institute recently and listened to the doctor who is doing research on Alzheimer's. I asked him what the future of the research was and he said while it was promising, it will still take years."

### **Structural biology**

**Understanding a protein's three-dimensional structure allows researchers to 'see' biological processes at their most fundamental level. They use this knowledge to identify how proteins interact with each other, how drugs act, and how certain diseases such as Alzheimer's proceed at an atomic level. Researchers in the Structural Biology Unit focus on a variety of diseases including cancer, Alzheimer's and infectious diseases.**





THE RESEARCH  
STRUCTURAL BIOLOGY UNIT

# A protein arsenal

In 2015, researchers from the Structural Biology Unit, in collaboration with scientists at the Bio21 Institute, University of Melbourne and the University of Oklahoma in the US, showed how the bacteria *Streptococcus pneumoniae* (*S. pneumoniae*) assembles an arsenal of proteins to breach the membrane of human cells.

Infection by *S. pneumoniae* causes a range of serious human diseases including pneumonia, bronchitis, bacterial meningitis and sepsis. These bacteria are responsible for a quarter of the deaths of young children in the developing world.

It has been known for some time that the bacteria cause cellular damage via a toxin called pneumolysin. Pneumolysin is made up of individual components that

assemble into a doughnut-shaped superstructure that punches a hole in the human cell wall, causing the cell to disintegrate.

Using the Australian Synchrotron, a giant X-ray microscope at Clayton in Melbourne's south-east, SVI researchers showed, for the first time, the initial few critical steps that occur in the formation of the superstructure.

Senior author Professor Michael Parker says, "Pneumolysin first recognises human cells by binding to cholesterol in the cell membrane. Once anchored on the cell surface it interacts with nearby pneumolysin molecules to form a linear

array of toxin molecules. Body temperature is sufficient to cause changes in the shape of the molecules to convert the linear array into doughnut-shaped rings. This causes large holes in the cell membrane and allows the cell's essential nutrients to escape."

The emergence of drug resistant pneumococci and the poor efficacy of current vaccines have prompted the search for new vaccines and drug targets against the bacteria.

This research provides a framework for the design of new vaccines and drugs to combat pneumococcal disease.

...A FRAMEWORK  
FOR THE DESIGN  
ON NEW VACCINES  
TO COMBAT  
PNEUMOCOCCAL  
DISEASE



## THE TALENT CRAIG MORTON STRUCTURAL BIOLOGY UNIT

Having worked in both academia and the pharmaceutical industry (for the Australian company, Biota), Dr Craig Morton can see the virtues of both sectors. He admires the singular focus of industry, but thinks that the ability to be creatively nimble is one of academia's key assets.

Craig's area of expertise – molecular modelling – allows scientists to view the three-dimensional structure of proteins at the atomic level.

Proteins are the molecular engines that control all functions of the body. What Craig does could be described as visualising a particular protein from a protein's viewpoint. He wants to know what the protein physically looks like; where its grooves and nooks are; how it interacts with its neighbours; and how

these interactions might be disrupted. Since the majority of drugs work by interfering with protein interactions, Craig's expertise is invaluable for the design of new drugs.

He says, "The thing that excites me is when I first see the structure of a protein that no one else in the world has ever seen."

The ability to 'see' the three-dimensional structure of a protein requires a defined series of elaborate steps, each of which has intrinsic difficulties that need to be troubleshoot, often via trial and error. He says that in some cases it has taken many years to determine the structure of a particularly recalcitrant protein.

He is excited at the moment because a current project has hit a remarkable

purple patch. Craig has recently 'solved' the structure of a toxin from a particular type of bacteria in a record 7 days.

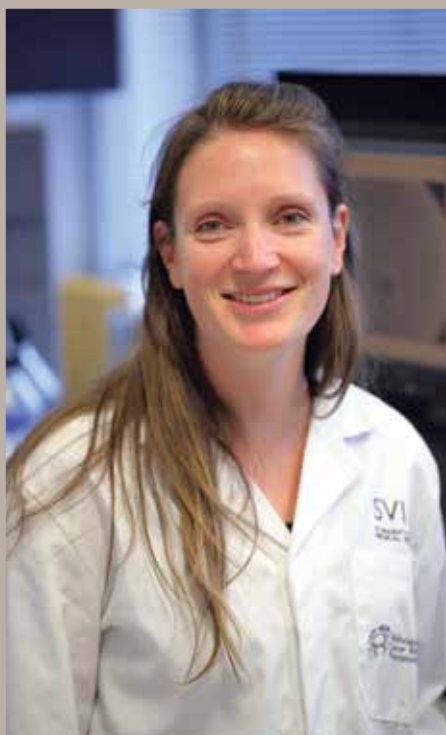
"That is as fast as it happens, getting a turnaround like that. And when it does, it is amazing," he says. The results are relevant because the bacteria in which the protein is found is the cause of an outbreak that has recently infected 57 people in the U.S. and killed 18 people to date. While it is not yet known how the bacteria damages cells, the structure Craig has determined gives some promising clues.

Craig is bringing his industry training to this project and at the same time harnessing the creative energy that the academic environment at SVI has to offer.



## WOMEN IN RESEARCH

**The Women in Research Award supports outstanding researchers balancing careers and motherhood.**



*Images (left to right):  
Drs Lorien Parker,  
Judith Slocombe, Susan  
Alberti AC and Prof Tom  
Kay; 2015 Women in  
Research Award  
recipient Dr Lorien  
Parker; the SVI  
Foundation team at the  
Mother's Day Luncheon*

For 3 years the Susan Alberti Medical Research Foundation's Mother's Day Luncheon has raised vital funds to support the careers of women in research at SVI.

The Susan Alberti Women in Research Award provides financial support to an outstanding female researcher at SVI, helping to alleviate the adverse impact on her research caused by the family responsibilities that come with having a baby. The Award funds a research assistant to continue the recipient's work in the lab while she is on maternity leave or if she returns to work part time.

The recipient of the 2015 Women in Research Award was Dr Lorien Parker, a

postdoctoral researcher in SVI's Structural Biology Unit and the proud mother of 7-month-old Charlie and 2.5-year-old Mae.

Lorien says that the Award has enabled her to continue her research while she was on maternity leave.

"This Award has allowed me to continue my research, even in my absence, while I spend the first few critical months with my newborn baby. It's reassuring to know that I have the support of the Institute and the Susan Alberti Women In Research Award, to help me through what I consider one of the most important times of my, and my son Charlie's, life. I have the confidence that my work is in

good hands while I'm away.

"I think it is fantastic to acknowledge how truly difficult it can be for a woman to successfully manage work and family without having to sacrifice one at the expense of the other.

"Unfortunately, there is never really an ideal time to have a career break to start a family. Initiatives like this Award facilitate the continuity of research during what can otherwise be a difficult time and can result in significant career and research project setbacks. This in turn often lessens the chance of success in obtaining future funding – an essential ingredient in medical research progress.

"Medical research is an

extremely competitive field that requires a consistent output of ideas, results and publications to secure funding for further research. Career disruptions severely affect the ability to maintain this much needed continuity. The supportive environment at SVI, along with successful collaborations, a good scientific network and a great lab team make succeeding through difficult times possible."

**If you would like to support Women in Research at SVI, contact the SVI Foundation on (03) 9231 2480 or email us at [foundation@svi.edu.au](mailto:foundation@svi.edu.au)**

Beryl



**Beryl was 57 when she was diagnosed with osteoporosis.** “My mother had a history of back pain as far back as my childhood. It was just something she lived with so she did not give it great consideration.

When she was 86 and living with us she had severe, sharp pain in her thoracic spine. It hurt her to talk, laugh and cough, let alone move. I called our GP who said she had an osteoporotic fracture.

As I was responsible for looking after her I visited Arthritis & Osteoporosis Victoria’s library to learn more about osteoporosis. I found out that it was hereditary, so I asked my GP for a bone densitometry test and found out I had osteoporosis but had not reached the fracture threshold like my mother, and therefore I had no symptoms.

Mum subsequently had several minimal trauma fractures in the spine, the last one occurred when she was making her bed.

There were no dramas in the family when I was diagnosed because I had no pain and was immediately put on medication, increased my calcium and vitamin D intake and I made sure I did appropriate strength training exercises.

Establishing the Melbourne Osteoporosis Support Group has helped me learn about and manage the condition.

I went through a period of 4 years where I did not need to take the osteoporosis-specific medication because my bone density improved, but due to the fact that I have to take other medication that is detrimental to my bones, I relapsed and had

to resume my specific medication, which did not worry me at all.

I have no real concerns about my health generally, but the risk of fracturing as a result of a fall is always on my mind. I am so pleased to be living at a time when, thanks to all the research being done, there is so much help available that wasn’t there for previous generations.

My husband, Bill, says he is grateful that there is treatment available, as he didn’t want to see me suffer as my mother did.

It would be great if researchers would come up with a simpler method of diagnosing osteoporosis such as a blood test, instead of having a bone densitometry, so that it may be detected earlier. Unfortunately it is often not diagnosed until the patient has a fracture, by which time the condition is severe.”

#### **Bone**

**By studying the cells that build bone, the cells that destroy bone, and the way these cells interact with each other and their environment, researchers in SVI’s Bone Cell Biology and Disease Unit have identified new therapeutic targets that may be used to treat osteoporosis and arthritis.**



THE RESEARCH  
BONE CELL BIOLOGY &  
DISEASE UNIT

# Stone bones

Most people have heard of osteoporosis – when our bones with age become porous and prone to fracture. In some ways, it is the antithesis of a much rarer disease called osteopetrosis (literally ‘stone bone’), in which the bones become abnormally dense.

In early 2016, Associate Professor Natalie Sims and her team published a paper in the journal *Development*, in which they showed a surprising role for a protein called ephrinB2 in the development of bone. The study has the potential to answer some of the questions about how osteopetrosis develops.

Natalie explains that the process of bone development is orchestrated by a complicated series of interactions between three main players: chondrocytes (cells that make cartilage), osteoblasts (cells that make bone) and osteoclasts (cells that resorb bone).

She says, “During an embryo’s development, chondrocytes build a

template of the skeleton made of soft cartilage in the place where the bone is destined to grow. Once the right stage of development is reached, the cartilage is removed by osteoclasts and osteoblasts fill up the space with bone.”

The researchers set out to pin down the role of the ephrinB2 protein in bone development by removing it specifically from the chondrocytes and osteoblasts in mice. The mice developed a mild form of osteopetrosis. The team showed that this was caused by a disruption to the cartilage-forming cells that meant that the cartilage did not behave in a normal way, and this had knock-on effects for the subsequent laying down of bone.

Natalie says that osteopetrosis is a rare, inherited disease. In some children it resolves without intervention. In others,

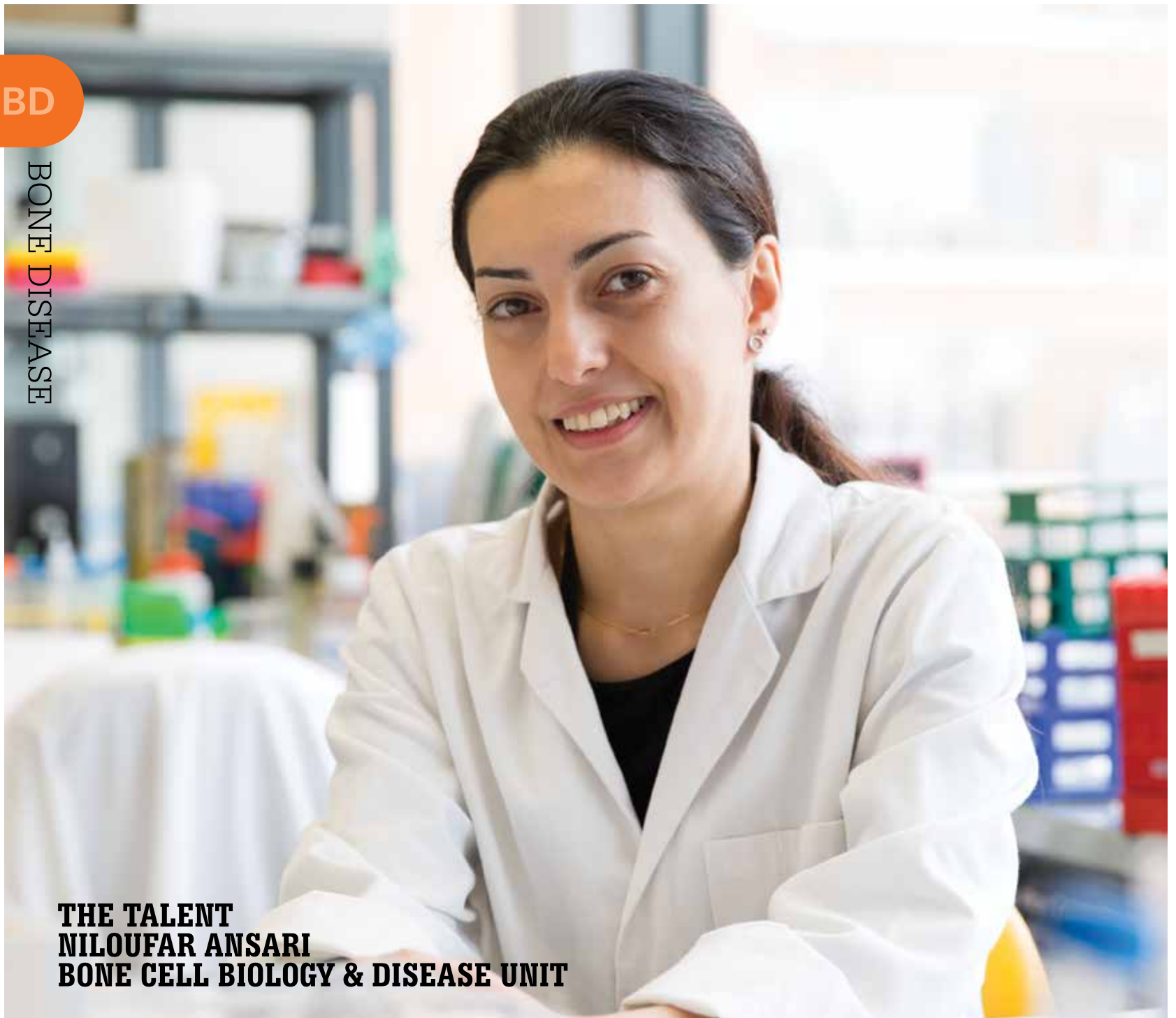
the bone’s marrow space, where the blood cells develop, gets filled up with bone. This can lead to bone marrow failure and anaemia, along with other serious defects, and can cause premature death. It has never been clear why the condition resolves in some children, but not in others.

“Our work suggests that the condition might resolve because of a genetic defect specific to chondrocytes, like the mutation in ephrinB2 that we have studied,” says Natalie.

While Natalie says that their results are exciting, she admits that the study raises more questions than it answers. She is looking forward to further defining the way that the cells in the skeleton interact to control this important developmental process.

THE STUDY HAS  
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ANSWER SOME  
OF THE QUESTIONS  
ABOUT HOW  
OSTEOPETROSIS  
DEVELOPS





## THE TALENT NILOUFAR ANSARI BONE CELL BIOLOGY & DISEASE UNIT

Niloufar Ansari says that she has always had an open mind. However, she admits that her mother didn't necessarily appreciate that trait when it led her youngest daughter from her home in Iran to Melbourne to do a PhD.

Niloufar did a Doctor of Pharmacy at Tehran University prior to spending 5 years working in the Neuroscience Research Center at Shahid Beheshti University of Medical Sciences in Tehran. In 2014 she moved to SVI's Bone Cell and Biology Unit to work with Associate Professor Natalie Sims.

Niloufar's PhD project focuses on a type of bone cell called an osteocyte. She says, "In Iran I was working with neural cells that we could grow in culture and study in isolation. The difficulty in

working with bone is that there are lots of different cells, and these change each other's function by 'talking' to each other. When you put them in culture they lose some of their unique features, making it hard to study their interactions in the culture dish in the lab."

She explains that until recently osteocytes were thought to be relatively unimportant 'placeholder cells', but they have now been shown to have numerous functions, including in maintaining the strength and health of bone. Her supervisor, Natalie, describes osteocytes as the 'brains buried deep within bone'.

Niloufar's project is focused on the role of a particular protein in osteocytes. The protein, called parathyroid hormone-related protein (PTHrP), was

discovered by SVI's Professor Jack Martin and his team in the 1980s. She is examining a mouse in which the protein has been removed specifically from its osteocytes, in order to identify what effect that has on bone structure and strength.

Last year Niloufar was awarded the prestigious Roger Melick Young Investigator Award at the Australian and New Zealand Bone and Mineral Society (ANZBMS) conference and early in 2016 she was awarded an SVI Foundation Top-up Scholarship.

Niloufar is clearly captivated by the bone field, and is excited about further delving into the mysteries of the misunderstood osteocyte. When asked what she plans to do in the future, she says she is keeping an open mind.



## A DRIVING FORCE

More than \$70,000 raised at SVI's 2015 Charity Golf Day.



SVI's 8th annual Charity Golf Day on Monday, October 26th, helped raise more than \$70,000 for medical research at the Institute.

The event was held at Albert Park Golf Course and while the weather didn't cooperate, the overcast skies, showers and wind didn't deter the players or dampen their spirits.

The Contango team of William Laister, Alistair Drummond, Justin Farley and Mark Kerr won the Jack Holt Trophy for finishing first on the day. The BMW team, consisting of Guy Angwin, Peter Small, Peter Barrie and Geoff Briscoe were runners up.

"On behalf of SVI, I'd like to thank our Platinum

Sponsors, Macquarie Leasing, and Silver Sponsors, Maxxia for their sponsorship of this year's Golf Day," said SVI Director Tom Kay.

"Funds raised at this event have a great and ongoing impact on the Institute. The willingness of organisations to sponsor and donate to the day shows the support in the community for medical research in general, and SVI in particular, which is excellent."

"I'm proud of our track record in research areas including diabetes, heart disease, cancer and Alzheimer's, and promise our supporters that every dollar raised supports the organisation and its researchers in

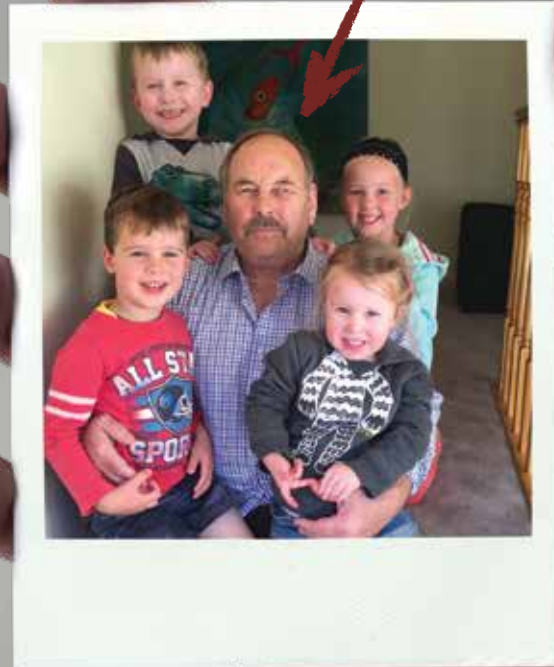
our quest to prevent, treat and cure the diseases that affect many Australians."

The 2016 Golf Day will be held at Green Acres Golf Course in Kew on Monday, October. Macquarie Leasing will again be the Platinum sponsor of the event and Maxxia and AGL silver sponsors.

**If you would like to sponsor or participate in the day please contact the SVI Foundation on (03) 9231 2480, or email us at [foundation@svi.edu.au](mailto:foundation@svi.edu.au)**

Ray

**Ray was 43 when he had a heart attack** "I was running a small dairy farm and teaching during the day as a permanent relieving teacher for Sth Gippsland schools.



I had played footy until I was 30, and kept in reasonable shape. My cholesterol was 3.1 and my blood pressure was normal. When the heart attack came it was a huge surprise. I was fit, healthy and reasonably active and it was school holidays; how could I have a heart attack?

At first I thought I might been bitten by a snake as all morning I had been on the paddocks spraying weeds. However, the pressure in my chest and my burning throat led us to make an appointment with the Foster medical clinic. Foster was half an hour away and within 5 minutes in the car incredible pain in my chest and left arm left me gasping for air.

An ECG revealed I was having a heart attack and the quick acting doctors at the clinic had an ambulance landing at the local sports ground within minutes. I can't remember much on reaching Dandenong Hospital. It's all a blank until 48 hours later. Apparently I received a fairly new treatment, an injection of a wonder drug that minimizes the damage to the heart.

Recovery took about 8 days with daily physiotherapy. I was amazed at how weak my body was. It took all of a week before I could pass the test that allowed me to go home. The test? Being able to climb an 8-step staircase, which at the time was very difficult.

I realised that my family on both of my parents' side had heart problems, and it was hammered home to me that my

smoking habit was a large contributor. The stress of doing two jobs didn't help either.

I found it surprisingly difficult to get back into the swing of things – not just physically but emotionally and mentally as well. Home life for my wife and my sons was not easy, but they supported the decision for me to quit teaching and grow our dairy enterprise.

With stem cell research making huge headway I am sure that in the future transplants, artificial pumps and even using pig hearts will become redundant. As for disease-causing clogged arteries etc, present methods using bypass and balloon methods and the wonderful drugs we now have will hopefully also become less often used as our lifestyle and eating habits vastly improve.

Last Jan 19th was 26 years since that episode. During that time I have had a defibrillator fitted, quit smoking, sold our dairy farm and lived in China for 5 years. Although it's necessary for me to take a number of daily medications, I have survived to see my sons marry and lived to see my five grand children. Life is good."

#### **Heart disease**

**Heart research at SVI is directed towards understanding why heart disease occurs, identifying those at risk and finding new ways of repairing damage once it occurs.**



## THE RESEARCH O'BRIEN INSTITUTE DEPARTMENT

# Heart, heal thyself

In 2015, Dr Shiang Lim (Max) and his colleagues from the O'Brien Institute Department published research in the journal *Stem Cells* in which they described a new type of adult stem cell isolated from human heart tissue.

Stem cells are the chameleons of the cell world, theoretically able to transform into any cell type. Adult stem cells are found within adult organs and they are thought to represent a reservoir of cells poised to maintain tissue when called upon. If capable of being harnessed, these cells could provide a powerful means of repairing damaged tissue.

This is particularly important in the case of the heart, which otherwise lacks the ability to adequately repair itself after it has been damaged. While cohorts of so-called cardiac resident stem cells

have been identified by other groups, the O'Brien group's study identified a new type of cell, isolated from the heart tissues of patients undergoing a coronary artery bypass surgery.

To fit the definition of a adult cardiac stem cell, the cells must be all derived from a single cell, be able to divide in culture and be capable of developing into the different types of cells found in the heart. Max's new cells passed all of these tests with flying colours.

Most excitingly, the group showed that the cells were able to repair the damage done by heart attack in an animal model of heart disease. The

researchers showed that the cells were capable of protecting nearby cells from dying and could promote the growth of blood vessels; actions which assist cardiac repair and regeneration.

Max says, "These findings highlight that the heart is a rich source of resident stem cells with the potential to be harvested, expanded, and exploited for effective and safe cell therapy."

Most importantly, Max's cells are promising because they represent a patient-specific source of cells – with the right encouragement, the patient's own cells could be coaxed into efficiently repairing the heart after it is damaged.

WITH THE RIGHT  
ENCOURAGEMENT,  
THE PATIENT'S OWN  
CELLS COULD BE  
COAXED INTO EFFI-  
CIENTLY REPAIRING  
THE HEART

A portrait of Fei Fei Gong, a young woman with long dark hair, looking slightly to the right. She is wearing a dark blue top. The background is a blurred outdoor setting with green grass and trees.

## THE TALENT FEI FEI GONG MOLECULAR CARDIOLOGY UNIT

PhD student Fei Fei Gong became interested in the heart during the lectures she attended in the first years of her medical degree at Melbourne University.

“It seemed to make a lot of sense at the time: you’ve got a pump, you’ve got some pipes leading in and out of it and the medical problems are related to the pump and the pipes,” she says.

The early experience stayed with her and led to her doing an elective in cardiology at Oxford. “That’s when I had great exposure to the whole spectrum of cardiology. It was so much more complicated than I originally assumed, but that made it more interesting as well.”

After graduating in 2008, Fei Fei did her physician’s and cardiology training and then decided to embark upon a PhD at

the start of 2016. She says, “I realised early on that a lot of what we do in medical practice is based on research studies from days gone by. I want to experience the whole process of research from how a study is designed to how it is performed. I want to really understand what journal articles are saying so that I can interpret them in an appropriate way myself. I think that’s important. I also want to further our understanding in cardiology. There’s still so much to be learned.”

Fei Fei’s PhD project follows a large group of people at high risk of developing heart failure. Almost 4000 people were originally selected to be in the study and almost two-thirds of them have been followed now for roughly 7 years. “There have not been a lot of studies, particularly

of this size, that have followed how the structure of the heart changes. A proportion of the people in the original cohort have gone on to develop heart problems. We want to now go back and see how the structure of their heart changed over that time. The aim is to see if we can use the changes we observe in this high-risk group of people to predict who will go on to develop heart problems in the future. Hopefully early identification will go a long way to preventing bad outcomes.”

It is ironic that it was Fei Fei’s original fascination with the simplicity of the organ that now drives her to try and understand the deeper complexity of the problems faced by people with heart disease.



## TURNING THE TABLES ON RESEARCHERS

Visit SVI to hear about our cutting edge medical research, learn about how breakthroughs are made, and discover what SVI researchers are doing to improve the health of Australians.



Throughout the year we welcome visitors keen to learn about medical research and what drives researchers to understand the 'why and how' of disease.

The motivations to become a researcher are varied, but one thing many of our researchers have in common is a strong personal experience that drives their desire to understand particular diseases.

In 2015, our visitors were given a behind the scenes look at a research laboratory and were given the opportunity to turn the tables on the researchers – asking them the 'why' and 'how' questions about their work and the diseases they study.

Students from FCJ Benalla, Genazzano College, St Columba's College and Scotch College met with SVI researchers and PhD students, who talked about their career paths and how they came to choose medical research as a career.

We also welcomed Local, State and Federal politicians, generous donors, community groups and philanthropic organisations, all of whom who were eager to learn more about SVI research.

Visitors learnt about the importance of protein shapes in the Structural Biology Unit, peered down the microscope at pancreatic islets in the Immunology and Diabetes Unit and learnt about DNA

damage and cancer in the Genome Stability Unit.

Tours take about one hour and can be tailored to suit your availability and interest in a particular disease area.

**If you would like to take part, contact the SVI Foundation on (03) 9231 2480 or email us at [foundation@svi.edu.au](mailto:foundation@svi.edu.au)**

*Images (left to right): Students from FCJ Benalla, Prof Michael Parker and Mr Frank McGuire MP; students from Scotch College; NBCF tours SVI; the City of Melbourne*

## S

## SVI STAFF 2015

**Executive****Prof Thomas WH Kay (Director)**

Prof Michael W Parker (Deputy Director)  
 Prof Jack Martin (John Holt Fellow)  
 Prof Bruce E Kemp (Pehr Edman Fellow)  
 A/Prof Jörg Heierhorst (Associate Director)  
 A/Prof Louise Purton (Associate Director)  
 A/Prof Natalie Sims (Associate Director)  
 A/Prof Helen Thomas (Associate Director)

**Research units****Structural Biology Unit****Prof Michael Parker**

Dr Brett Bennetts  
 Dr Sophie Broughton  
 Karen Steffi Cheung Tung Shing (PhD Student)  
 Gabriella Crespi  
 Dr Urmi Dhagat  
 Larissa Doughty (PhD student)  
 Dr Susanne Feil  
 Chen Gao (PhD student)  
 Dr Michael Gorman  
 Nancy Hancock  
 Dr Stefan Hermans  
 Dr Jessica Holien  
 Dr Sara Lawrence  
 Jasmina Markulic (Honours Student)  
 Dr Belinda Michell  
 Dr Luke Miles  
 Dr Craig Morton  
 Dr Tracy Nero  
 Dr Lorien Parker  
 Michelle Zheng (U/Grad Student)

**Immunology and Diabetes Unit****Prof Thomas Kay****A/Prof Helen Thomas****Dr Tom Brodnicki****Dr Mark Chong****Dr Stuart Mannerling**

May Abdulaziz Alsayb (PhD student)  
 Elena Batleska (U/Grad Student)  
 Edward Chu (PhD student)  
 Dr Colleen Elso  
 Stacey Fynch  
 Justin Galvin (Honours student)  
 Jingjing Ge (PhD Student)  
 Peter Glover (Masters Student)  
 Dr Kate Graham  
 Karen Gu (Masters Student)  
 Dr Esteban Gurzov  
 Jeffrey Hamilton (U/Grad Student)  
 Allison Irvin  
 Gaurang Jhala (PhD student)  
 Dr Tim Johanson  
 Lucy Kennedy (U/Grad Student)  
 Tim Kay  
 Ashleigh Keown  
 Cameron Kos  
 Dr Bala Krishnamurthy  
 Janine Kuehlich  
 Nitesh Kumar (Scholarly Selective Medical Student)  
 Yue Li  
 Dr Sara Litwak  
 Xin (Adrianna) Liu (Masters Student)  
 Dr Thomas Loudovaris  
 Leanne Mackin

Lina Mariana  
 Dr Zia Mollah  
 Janice Nathalie (U/Grad Student)  
 Lockman Pang (U/Grad Student)  
 Evan Pappas (Honours Student)  
 Dr Vimukthi Pathiraja (PhD student)  
 Patrice Penas (U/Grad Student)  
 Elicia Pettirosso  
 Hong Sheng Quah (PhD Student)  
 Nick Scott (PhD Student)  
 Claudia Selck (PhD Student)  
 Devin Simpkins (International BSc student)  
 Jarrod Skinner  
 Dr Michelle So (PhD student)  
 William Stanley (PhD student)  
 Dr Andrew Sutherland  
 Dr Christina Tan  
 Erwin Tanuwidjaya  
 Michael Thomson  
 Sam Thorburn  
 Eleonora Tresoldi  
 Prerak Trivedi (PhD student)  
 Chitra Varanasi  
 Paul Vrazas  
 Dr Jibrán Wali  
 Dr Michaela Waibel  
 Eleanor Watson (U/Grad Student)  
 Emily Wilson

**Protein Chemistry and Metabolism Unit****Prof Bruce E. Kemp**

Dr Zhi-Ping Chen  
 Toby Dite (PhD student)  
 Dr Sandra Galic  
 Vy Hoang (PhD student)  
 Samah Issa  
 Frosa Katsis  
 Dr Christopher Langendorf  
 Dr Naomi Ling  
 Dr Kim Loh  
 Lisa Murray-Segal  
 Dr Kevin Ngoei  
 Matthew O'Brien (PhD Student)  
 Dr Jonathon Oakhill  
 Dr John W. Scott

**Molecular Cardiology Unit****A/Prof Duncan Campbell**

Suang Suang Koid (PhD student)  
 A/Prof David Prior  
 Edward Crendal

**Bone Cell Biology and Disease Unit****A/Prof Natalie A Sims****Prof Jack Martin**

Niloufar Ansari (PhD student)  
 Ling Yeong Chia (PhD student)  
 Dr Dae-Chul Cho (Visiting Academic)  
 Blessing Crimeen-Irwin

Pat Ho  
 Leah Lazzarro  
 Emma McGowan  
 Narelle McGregor  
 Megat Ikhwan Haris Megat Khas (Masters Student)  
 Melissa Murat (Honours Student)  
 Thomas Pearson (U/Grad Student)  
 Ingrid Poulton  
 Brett Tonkin  
 Christina Vrahnas (PhD student)  
 Erica Zhou (U/Grad Student)

**Stem Cell Regulation Unit****A/Prof Louise Purton****Dr Carl Walkley**

Dana Alhuzaimi (Masters Student)  
 Shreya Bhattacharya (PhD student)  
 Dr Alistair Chalk  
 Harvey Chong (U/Grad Student)  
 Dr Jessica Fletcher  
 Ankita Goradia  
 Alanna (Leni) Green (PhD Student)  
 Ana Holanda Maluenda  
 Chacko Joseph (PhD student)  
 Brian Liddicoat (PhD student)  
 Alvin Ng (PhD student)  
 Jack O'Halloran (Honours Student)  
 Victoria Rudolf-Stringer (Honours student)  
 Dr Monique Smeets  
 Lenny Straszkowski  
 Dr Shuh Ying Tan (PhD student)  
 Scott Taylor  
 Dr Mannu Walia  
 Jiala (Jane) Xu (U/Grad Student)

**Molecular Genetics Unit****A/Prof Jörg Heierhorst**

Kimberly Gleeson  
 Gabriella Hayman (U/Grad Student)  
 Ashleigh King (PhD Student)  
 Lingli Li (PhD student)  
 Alyana Obtinalla (U/Grad Student)  
 Nora Tennis  
 Dr David Wong

**Genome Stability Unit****Dr Andrew Deans**

Winnie Ho (Honours Student)  
 Dr Charlotte Hodson  
 Vince Murphy  
 Julianne O'Rourke (PhD Student)  
 Dr Fenil Shah  
 Sylvie van Twest

**Cell Cycle and Cancer Unit****Dr Boris Sarcevic**

Ain Roesley (PhD student)



**O'Brien Institute Department****Prof Wayne Morrison****Mr Ramin Shayan****Dr Shiang Yong (Max) Lim****A/Prof Geraldine Mitchell**

Katie Ardipradja

Dr Azar (Zara) Asgari (PhD Student)

Nadeeka Bandara (PhD Student)

Dr Charlotte Bendon (Hon Surgical Research Fellow, UK)

Sholeh Boodhun (PhD Student)

Yi-Wen Gerrand

Xiao-Lian Han

Dr Nicole Harris

Prad Herle (PhD Student)

Damian Hernandez de Santiago (PhD Student)

Dr Anne Kong

Mr Diego Medina Marre (Hon Surgical Research Fellow, Spain)

Jason Palmer

Dr Chris Poon

Ayesha Rosdah (Masters Student)

Lipi Shukla (PhD Student)

Priyadharshini Sivakumaran

Beryl Tan (Masters Student)

Mr Shaun Tan (Hon Surgical Research Fellow, Singapore)

Dr Caroline Taylor

Kam Truong (PhD Student)

Kiryu Yap (PhD Student)

Weiqing Zhan (International PhD Student)

Mr Stephen Tham (Honorary Research Fellow)

Mr Eugene Ek (Honorary Research Fellow)

Mr David McCombe (Honorary Research Fellow)

**Senior Principal Research Associates**

Prof Peter Choong

Prof Anthony d'Apice

Prof Kong Wah Ng

Prof Richard MacIsaac

**Principal Research Associates**

A/Prof Ora Bernard

Prof Peter Cowan

Dr Barry Dixon

Prof Michael Henderson

Prof Darren Kelly

A/Prof John Slavin

A/Prof Gregory Steinberg

**Senior Associates**

Dr Lance Macaulay

Prof Harshal Nandurkar

A/Prof Evange Romas

**Associates**

Dr Julian Adams

Dr Renwick Dobson

Dr Nirupa Sachithanandan

**SVI Foundation****Madeleine Whiting****(Development Director)**

Dan Mars (Philanthropic Relationship Manager)

Katie Maynes (Snr Events Officer)

Rachel Mudge (Acting Fundraising Manager)

Lucy Rechnitzer (Events Officer)

Joanne O'Hara (Snr Events Officer)

Lara Yachou-Wos (Donor Relations Officer)

**SVI Administration**

Steven Boz (Administrative Officer)

Theresa Clarke (Administrative Officer)

Metta Clarissa (Finance Officer)

Christophe Demaison (Acting Head, Business Development)

Ryan Egan (IT Officer)

Mathew Eley (IT Officer)

Aaron Jackson (IT Officer)

Dr Anne Johnston (Grants and Communications Manager)

Effe Keramidaris (WH&amp;S

Coordinator)

Jenny Knowlson (Administration Manager)

Lisa Kuspira (Media &amp; PR Adviser)

Virginia Leopold (WHS Coordinator)

Lisna Wirrawan Liauw (Payroll Officer)

Julie Malyon (Administrative Officer)

Dr Anthony Mason

(Commercialisation Development Manager)

David Murfitt (Laboratory and Technical Services Manager)

Kathryn O'Connell (Administrative Officer)

Maria Pineda-Haufe (Finance

Manager and Company Secretary)

David Rees (Business Manager and Company Secretary)

Jon Rhoades (IT Officer)

Helen Ritchie (Human Resources Manager)

Christopher Ryan (IT Officer)

Dimitra Samaras (Administrative Officer)

Betty Scardaville (Finance Officer)

Dr Anne Thorburn (Research and Administration Manager)

Peter Tonoli (IT Manager)

Tiffany Tran (Administration Officer)

Jing Zhang (Finance Officer)

**National Serology Reference Laboratory, Australia****Susan Best (Director)**

Lena Arvanitis

Dr Thein Thein Aye

Dr Susie-Jane Braniff

Penny Buxton

Liza Cabuang

JingJing Cai

Roderick Chappel

Shannon Curley

Stirling Dick

Wayne Dimech

Cathryn Dunkley

Stephen Gilmour

Helen Hasler

Marina Karakaltsas

Geraldine Kong

Sally Land

Dr Mark Lanigan

Nilukshi Malawa-Arachchi

Tamara McDonald

Alison Natoli

Louie Opasnov

Thu-Anh Pham

Kim Richards

Dr Derya Sahin

Kathy Smeh

Roseena Taqi

John Tomosov

Frank Torzillo

Rosanna Torzillo

Marlene Tschaepe

Guiseppe Vincini

Dr Kim Wilson

**Higher Degrees Conferred 2015**

Jennifer Coller, PhD University of Melbourne

Chen Gao, PhD University of Melbourne

Chacko Joseph, PhD University of Melbourne

Suang Suang Koid, PhD University of Melbourne

Alvin Ng, PhD University of Melbourne

Eliza Soo, PhD University of Melbourne

Janet Yeo, PhD University of Melbourne

**SVI Board**

Ms Brenda M Shanahan (Chair)

Mrs Susan M Alberti AC

Mr Ben Fielding (to 10/15)

Professor Richard Fox

Professor Mark Hargreaves (from 02/16)

Mr Paul Holyoake

Ms Karen Inge

Professor Thomas WH Kay

Mr John T Macfarlane

Mr Anthony Mancini (to 11/15)

Mr Stephen Marks

Ms Susan O'Neill (from 02/16)

Professor Patricia O'Rourke

Mr Peter Riley

Dr Virginia McNamee

Professor Stephen Smith (to 08/15)

Dr Marcus Tierney (from 08/15)

Mr Michael Wachtel (from 11/15)

**SVI Foundation Board (2016)**

Mrs Susan M Alberti AC (Chair)

Mr Benni Aroni

Ms Simone Carson

Ms Jeni Coutts

Ms Bernadette Dennis

Mrs Maria Foti

Mr James Hatzimoisis

Professor Thomas WH Kay

Mrs Claire O'Callaghan

Ms Maria Palazzolo

Mrs Karen Plant

Ms Brenda M Shanahan

Mr Mark Sullivan

Mrs Christine Tarascio

Ms Yan Li Wang

**Income**

**58%**

Competitive Research Grants

**14%**

Government Infrastructure Support

**15%**

Legacies, Bequests & Donations

**8%**

Contracts and other income

**5%**

Investment income

**Expenditure**

**60%**

Research

**11%**

Laboratory support services

**9%**

Transfers to Collaborators

**9%**

Building Operations

**8%**

Administration

**2%**

Foundation

**1%**

Commercial Development



**Statement of Financial Position as at 31 December 2015**

	2015 (\$)	2014 (\$)
<b>ASSETS</b>		
Current assets	12,828,303	10,751,974
Non-current assets	17,046,998	16,745,902
<b>TOTAL ASSETS</b>	<b>29,875,301</b>	<b>27,497,876</b>
<b>LIABILITIES</b>		
Current liabilities	5,298,741	4,849,775
Non-current liabilities	85,746	88,722
<b>TOTAL LIABILITIES</b>	<b>5,384,487</b>	<b>4,938,497</b>
<b>NET ASSETS</b>	<b>24,490,815</b>	<b>22,559,379</b>
<b>EQUITY</b>		
– Retained surplus	23,999,116	21,776,725
– Reserves	491,699	782,654
<b>TOTAL EQUITY</b>	<b>24,490,815</b>	<b>22,559,379</b>

**STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME FOR THE YEAR ENDED 31 DECEMBER 2015**

	2015 (\$)	2014 (\$)
Revenue	14,927,220	15,515,727
Other income	5,854,164	4,432,485
<b>TOTAL REVENUE</b>	<b>20,781,384</b>	<b>19,948,212</b>
Consumables and general research expenses	(3,853,706)	(3,470,962)
Employee benefits expense	(11,592,018)	(11,747,813)
Depreciation and amortisation	(2,309,329)	(2,227,706)
Administration expenses	(1,627,519)	(1,597,700)
Transfers to collaborators	(1,959,620)	(2,135,139)
<b>TOTAL EXPENSES</b>	<b>(21,342,192)</b>	<b>(21,179,320)</b>
Surplus/(Deficit) for the year	(560,808)	(1,231,108)
Other Comprehensive income (loss):		
Transfer of retained surplus from the O'Brien Institute	2,783,199	
Net gain/(loss) on revaluation of financial assets	(290,955)	54,464
<b>Total Comprehensive income (loss) for the year</b>	<b>1,931,436</b>	<b>(1,176,644)</b>
<b>Total Comprehensive income (loss) attributable to members of the entity</b>	<b>1,931,436</b>	<b>(1,176,644)</b>

**NOTE 1: GOVERNMENT GRANTS**

National Health and Medical Research Council:


– Independent Research Institutes Infrastructure Support Scheme	1,307,987	1,586,253
– Research grants	7,223,716	8,164,195
Australian Research Council	727,595	651,811
<b>Total Commonwealth Grants</b>	<b>9,259,298</b>	<b>10,402,259</b>
Victorian State Government – Operational Infrastructure Support Program	<b>1,537,917</b>	<b>1,483,492</b>

The summary financial information shown above does not include all the information and notes included in the entity's statutory set of financial statements. The full set of Statutory Financial Statements can be obtained upon request to the Chief Financial Officer. The Statutory Financial Statements comply with the Australian Accounting Standards and an unqualified audit opinion was issued by the auditors, William Buck Audit (Vic) Pty Ltd.



**B**

**BEQUESTS**



**“I know research takes a long time - I didn’t want to wait until I was older to make a decision to be involved with a medical research charity. I wanted to get involved and support something I believe in now.”**



## THE EXTRAORDINARY DIFFERENCE YOUR BEQUEST COULD MAKE.

### At 36, unmarried and with no kids, David Tarascio doesn't fit the typical profile of an SVI Bequestor.

However, unlike many other '30-somethings', David has taken the time to prepare a Will and bequest a portion of his estate to SVI.

A successful businessman in his own right, David is CEO of Salta Capital, a private investment company his family set up to invest in ventures external to the family's core property development business (Salta Properties).

**At least 45% of Australians do not have a valid Will because they think they are 'too young'; we wondered what prompted David to prepare one.**

Well, a couple of things. My good friend Mark Sullivan, who is a member of SVI's Breakthrough Support Group, and a financial planner has suggested it a few times.

I think that age is irrelevant when it comes to making a Will, as life is unpredictable. I needed to clarify and have some control over what would happen to my assets and interests. The last thing I wanted was to have my family being forced to make these decisions during what I imagine would already be a challenging time for them.

#### So, why SVI?

In terms of good causes, SVI is the one I've been involved with the most and have the

most interest in. I first got involved with SVI by helping to establish the Breakthrough Group, which raises funds for SVI through special events.

I'm quite a skeptical person when it comes to charities, but SVI is well run, obviously established and has a lot of room to grow in a very competitive area (medical research). I would like to see it grow and get bigger and better.

SVI does research for diseases most of us are familiar with, and they don't focus on a narrow field. I like that approach and feel that SVI looks at some of the most important medical issues of our day.

I look forward to seeing what SVI does in the next 30 years—I know research takes a long time—I didn't want to wait until I was older to make a decision to be involved with a medical research charity. I wanted to get involved and support something I believe in now, and help give them some financial stability for their long term future.

#### How did you find the process of creating a Will? Did the SVI brochure help?

The SVI brochure was very useful and gave examples of the exact wording to use in the Will, which certainly helped, as did the assistance I received from an experienced solicitor.

#### How did your friends/peers respond to your decision to leave a Bequest?

Many of them were quite surprised at first, however I think it has spurred some of them on into thinking about it themselves.

#### What do you think are the biggest challenges or opportunities facing medical researchers in the future that you hope your bequest might help?

I think funding is the key issue that I suspect would be the obvious answer given by most people. Even if a researcher is really motivated, the reality is that with a family and the other costs of living it might not be possible for a brilliant researcher to remain in the field, given the relatively low remuneration on offer. If we lose smart people to another field because of financial insecurity that's a terrible outcome for Australia. Over time I might look at supporting a specific researcher if I can.

#### The Jack Holt Society.



SVI's Jack Holt Society held their annual Morning Tea on Friday December 5, 2015 in the Bourke Room of Melbourne's The Hotel Windsor.

SVI's Associate Professor Jock Campbell spoke about his heart disease research at the Institute and highlighted how it would not be possible without philanthropic support. Other speakers included Susan Alberti AC, SVI Foundation Chair; Kathy Wilson, a Special Counsel in Aitken Partner's Wills, Estates and Succession team; and the Patron of the Jack Holt Society, Gerald Snowden, who shared some of his personal story and what motivated him to join the Group.

**For more information on leaving a Bequest to SVI or joining the Jack Holt Society, please contact Madeleine Whiting at the SVI Foundation on (03) 9231 2480 or email us at [bequest@svi.edu.au](mailto:bequest@svi.edu.au)**



DF

**\$10,000 DISCOVERY FUND**





## SVI \$10,000 DISCOVERY FUND GAINS MOMENTUM

**The SVI \$10,000 Discovery Fund was set up to support SVI's medical research, with the future income aimed at improving the health of Australians. The Fund has a capital target of \$5 million and is currently valued at \$2.5 million, with further membership pledges of \$1,225,000, making a total of over \$3.7 million.**

Christine Tarascio is the Chair of the Fund, which currently has 45 members.

Christine says, "The Fund's progress is a testament to the philanthropic generosity of our members and supporters. We are well on our way to our goal!

"We are very pleased to welcome five new members this year: Malcolm Dingle and Ronnie Harrington, Michael and Miriam Lasky, Lawrence and Margaret Lou, Marcus Tierney and Cheryl Thomas. We also welcome a new joint membership of friends David Tarascio, Lisa and Christopher Lane, Ed Wilson and Adam Wulff: it's exciting to have the next generation come on board.

"We are very grateful that Benni Aroni and Roz Kaldor-Aroni, Graeme and Mabie Briggs and Gerald Snowden committed to a further 5 years

of giving. Thank you also for the generous donations from Jenny and Andrew Kenyon-Smith, Michael and Chandrika Lanteri, Justin and Sally O'Day, Toni and Vic Zagame and Jason Yeap."

A recent exciting development for the Discovery Fund was the signing of the first corporate sponsorship by Bertocchi Smallgoods. Brothers Andrew and John Bertocchi have been members, along with their wives Cristiana and Deborah, since 2014.

"We're proud to be associated with Bertocchi Smallgoods," said Professor Tom Kay, Director of SVI. "Bertocchi and SVI have both been members of the Victorian community since the 50s. Both are 'home-grown', with roots in Melbourne and Victoria, and while they contribute to the community in different ways,

each has a strong focus on quality."

Bertocchi's support of SVI's research is a great example of a corporate organisation giving back to its community and contributing to the financial stability of the Institute.

We also welcome the support of GS1 Australia, who are members and have now made SVI their Charity of Choice. Thank you to Maria Palazzolo, CEO of GS1, who is also a member of the SVI Foundation Board; we look forward to an ongoing relationship.

In March 2016, Sam and Christine Tarascio hosted the highly anticipated annual \$10,000 Discovery Fund lunch at GG followed by dessert, cheese and entertainment in their home. The lunch, the largest yet with almost 100 guests, brought together

members and supporters of the Fund, and provided an opportunity to hear more about the ground-breaking medical research being undertaken at SVI. Professors Tom Kay and Michael Parker spoke passionately about their research at SVI. They highlighted the vital role philanthropy continues to play in medical research and thanked the Tarascio family and guests for their generous support.

**An investment in the SVI \$10,000 Discovery Fund is an investment in our health, our family's health and the health of the whole community. Please call Christine Tarascio on 0418 318 627 if you would like to know more about the Fund or becoming a member.**



# D

## DONATIONS

**On behalf of SVI, I would like to thank everyone who donated in 2015. Thanks also to those donors not listed here and those who wish to remain anonymous. Every donation, no matter how small, has the potential to save lives. Thank you for your support.**

### **SUSAN ALBERTI AC, SVI FOUNDATION CHAIR**

#### **\$100,000 Plus**

North, C  
Shanahan, B  
Susan Alberti Medical  
Research Foundation  
The Stuart Leslie Foundation

#### **\$50,000-\$99,999**

David & Wilma Keath Family  
Prescribed Private Fund  
Michelmoro, J & A  
Schiavello, T & E

#### **\$10,000-\$49,999**

Anastasiou, P & K  
Andrew & Geraldine Buxton  
Foundation  
Arcaro, J & G  
Aroni, B & Kaldor-Aroni, R  
Bell Charitable Fund  
Bertocchi, A & C  
Bertocchi, J & D  
Bertocchi Smallgoods Pty Ltd  
Briggs, GW  
Bristol-Myers Squibb  
Burgess, T & J  
Buxton, M & J  
Ceravolo, E & M  
Cicero, J & R  
Cootes, I & M  
Crichton-Brown A  
Foti, T & M  
Gillam, J & H  
GS1 Australia  
Harold Mitchell Foundation  
Hatzimoisis, J & G  
Hyams, A  
Janko Inge Foundation Pty  
Ltd  
Lin Huddleston Charitable  
Foundation  
Lowe, R & D  
Macquarie Leasing Pty Ltd  
Piedimonte, S & R  
Plant, B & K  
Saraceno, N & R  
SI Capital Pty Ltd  
Signorino, J & F  
Snowden, G  
Tarascio, S & C  
Tarascio, S & C  
The Wolf Foundation  
Zagame, V & T  
Anonymous

#### **\$1000-\$9999**

Alberti, S  
All Souls' Opportunity Shop  
Arthur, J & A  
Besser, D & H  
Best, J  
Bowen, J & M  
Brazzale, J  
Breakthrough Group  
Camuglia, J & N  
Carson, S & I  
Chappell, J

Clarke, T  
Commings, H  
Crothers, M  
Curtain, M  
D'Arcy, J  
Edgewise Insurance Brokers  
Emerson, S & L  
F & J Ryan Foundation  
Falkiner, N & J  
Feldman, S & T  
Gourlay, L  
Gutman, J & J  
Harries, E  
Iseli, A & C  
Johnston, G & S  
Kay, T  
Kay, C & Swaney, S  
Keene, G & R  
Kelly, AP  
Knowles, J & Allen, R  
Kozica, W & O'Callaghan, D  
Longo, M & R  
Lord Mayor's Charitable  
Foundation  
Macquarie Group Foundation  
McCarthy, N  
McClintock, P & E  
McGinniss, M & L  
McKeage, C  
McNulty, M  
McPhail, B  
Mudge, R & S  
O'Day, J & S  
O'Shannassy, M & R  
Owen, K & E  
Patricia Spry-Bailey Charitable  
Foundation  
Penington, D  
Potter, P  
Power, T & D  
Ralph, J & B  
Randall, B  
Reid, I  
Riley, P & C  
Robinson, G & C  
Romanes, D  
Sevier, E  
Smith, JFM  
Stocks, A & M  
Stutt, D  
Tabak, L  
Thomas, C & C  
Thornton, C & Lorbek, S  
Walpole, D & M  
Walters, E & G  
Wang, YL  
Waters, MJ  
Webb, B & M  
Webb, J  
Webster, N  
White, R  
Wilkie, R & E  
Xipell, J & T  
YLC  
Anonymous  
Anonymous

#### **\$500-\$999**

Anderson, D  
Argyrou, M  
Barham, K & P  
Barro, R  
Bassat, A & N  
Beer, N  
Cullingford, I  
Dennis, B  
Edgar, R & D  
Fink, Y  
Goodrich, M & A  
Kurt, N  
Loder, R & S  
MacKay, D  
Marks, S & M  
McFarlane, M  
McNaughton, B & M  
Murphy, T  
Nossal, G & L  
Pitcher Partners  
Rowe, B & P  
Sakell, T & E  
Smorgon, S & M  
Stephen, N  
Stevens, R  
Valdichiesa Foundation  
Woods, M

#### **Trusts and Foundations**

5point Foundation  
Rebecca L. Cooper Medical  
Research Foundation  
The Ian Potter Foundation  
The Marian & E.H. Flack Trust  
The Yulgilbar Foundation  
Zig Inge Foundation

#### **SVI Charity Golf Day**

##### **Sponsors**

##### **Platinum**

Macquarie Leasing Pty Ltd

##### **Silver**

Maxxia

##### **Bronze**

AGL  
Australian Reliance  
BMW Melbourne  
Cabrini Linen Service  
Contango Asset Management  
Limited  
Credit Suisse  
Evans & Partners  
Ferrier Hodgson  
Garuda Indonesia  
Gorman Commercial  
Hawthorn Resources Limited  
Heat Group  
MotorOne  
OHM Australia Pty Ltd  
Pedders Suspension  
Salesforce  
Starwood Hotels & Resorts  
Waincott Financial & Edge  
Financial Partners

#### **Trusts & Foundations permanently established for the purpose of allocating funds to St Vincent's Institute on an ongoing basis:**

DJ & LM Fox Foundation – administered by Nicholas O'Donohue & Co  
John Holt Medical Research Endowment – administered by Perpetual Trustees  
K & A Bongiorno Research Endowment – administered by Perpetual Trustees  
The Mary Jane Polinelli Foundation – administered by Perpetual Trustees

#### **The following permanent funds are included in the company's pool of invested funds with income being directed to the Institute's medical research program:**

George Menzies Carson  
Bequest  
The Roslyn Smorgon  
Memorial Fund



## **SVI IS GRATEFUL TO THE LOYAL SUPPORT GROUPS WHO RAISE FUNDS FOR OUR RESEARCH.**

**Their funds are often directed towards specific fund-raising goals to support research across the Institute. If you are interested in supporting SVI, or joining any of our groups, please contact the SVI Foundation on (03) 9231 2480 or at [foundation@svi.edu.au](mailto:foundation@svi.edu.au)**

### **SVI Support Group**

The SVI Support Group was originally set up over 25 years ago and supports the SVI Foundation Top-up Scholarship Program, which provides \$5,000 to Honours students and boosts PhD stipends by \$5,000 per year. The SVI Support Group holds an annual dinner every year to raise funds for the Scholarship Program.

### **\$10,000 Discovery Fund**

The SVI \$10,000 Discovery Fund was established almost 10 years ago by SVI Foundation Board member Christine Tarascio. The Fund has a capital target of \$5 million and is currently valued at \$2.5 million, with further membership pledges of \$1,095,000. The Fund members come together at least twice a year.

### **Friends of SVI**

In 2013, SVI developed a program called Friends of SVI. The Friends of SVI engages our loyal donors, and encourages new friends to embrace SVI. Donations can be flexible, and be made monthly or annually. The Group organises the popular, annual Food Matters event series, which focuses on the role of food and diet in our society and its impact on disease.

### **Breakthrough Group**

In 2012, a group of friends formed the SVI Breakthrough Committee with the aim of educating and engaging young professionals on the importance of medical research and its potential impact. They hold a number of events each year, such as wine tastings, 'Jazz in the Lab' events and new film screenings.

### **The Jack Holt Society**

Every Bequest, no matter the size, helps to strengthen SVI's future. Your enduring gift will help us continue our quest to understand the complexities of disease, bringing us closer to breakthroughs and improved health. The Jack Holt Society was established to honour the generosity of those individuals who have notified us of their intention to pledge a gift in their Will to SVI. The Society gets together annually to share stories and learn more about research at SVI.



**St Vincent's Institute of Medical Research**

**t +61 3 9231 2480 w svi.edu.au**

**located** 9 Princes Street Fitzroy Victoria 3065 Australia

**post** 41 Victoria Parade Fitzroy Victoria 3065 Australia

**f +61 3 9416 2676 e enquiries@svi.edu.au**





# DONATING TO SVI

By supporting SVI's medical research, you can make a difference.

## 1. Donate a single gift to SVI

\$50    \$100    \$250    \$500    \$1000

Other \$ \_\_\_\_\_

## 2. Become a 'Friend of SVI'

Donate a regular gift:

Monthly gift amount \$ \_\_\_\_\_

Annual gift amount \$ \_\_\_\_\_

## 3. Join the SVI \$10,000 Discovery Fund

An investment in the \$10,000 Discovery Fund is an investment in the future of the Institute. For information, contact the SVI Foundation on (03) 9231 2480.

## 4. Consider SVI in your Will

If you would like to talk to SVI about a bequest in your Will, contact the SVI Foundation on (03) 9231 2480.

## 5. I am interested in the following disease areas:

Alzheimer's    Cancer    Heart disease

Type 1 diabetes    Type 2 diabetes    Bone disease

Other \_\_\_\_\_

# DONATING TO SVI

## Donation payment details

- Cheque (please make payable to St Vincent's Institute)  
 Credit card (please tick one of the following cards and complete details)

Card type (please tick)

- Diners  Visa  Mastercard  Amex

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

Expiry date Amount being paid \$

Name on card

Signature

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