SVI welcomes 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 the MRFF become a reality. This is great news for the sector because, in the absence of growth in NHMRC funding since 2009, it has become extremely difficult to secure NHMRC grants. The MRFF will start distributing a small amount of money immediately & it is expected to double Federal funding for medical research when it reaches its full capitalisation in 2022-23.

It is likely that the MRFF will reward researchers who are also endeavouring to receive 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 support our work into improving treatment of common diseases in the community.

Our scientists recently have had a purple patch of success, as you will read in this newsletter, with publications in major international journals and a number of significant awards. Our younger scientists were especially successful at the Aikenhead Centre for Medical Discovery (ACMD) Research Week held in August. This is a showcase for research across the campus and there were many excellent presentations – not only those that won awards, but a very high standard across the board. The success of the week augurs well for the great work that will be done when the ACMD becomes a physical reality.

Finally, we had Sue Alberti’s spectacular 30th anniversary Signature Ball on the 22nd of August. What an amazing highlight on our calendar this has become. We are proud to be one of the three institutes to benefit from the Ball and we thank Sue for her support of medical research. In addition to her philanthropic support, Sue is tireless in promoting the Institute – many of you will have noticed the SVI logo associated with the Western Bulldogs Women’s Football team. She is a remarkable Australian.

It is great to see the support for medical research in the community and we thank all those who have contributed to the Institute’s success.

SVI researchers showed that a protein called ADAR1 acts as a cellular security guard. ADAR1 adds a chemical tag to RNA, the messenger that translates the information in our genes. Each letter shown corresponds to a subunit called a nucleotide. Within the RNA sequence, ADAR1 is able to change the letter A to an I. By doing this, ADAR1 marks the RNA as belonging to the cell.
PhD student Brian Liddicoat is a pretty laid-back guy. He describes stopping at the lab to finalise the major article from his PhD for publication, just after dropping his pregnant wife off at the hospital when she entered labour.

Both events had happy outcomes: the article was published in the prestigious journal Science in July, 6 weeks after the birth of his daughter Lola.

The paper is the result of 3 years of hard work on Brian’s part and a productive collaboration with his supervisor Carl Walkley and researchers in the USA and Germany.

The paper describes the role of a protein called ADAR1 in RNA editing. RNA is the messenger that communicates the information contained in our genes to the rest of the cell. Editing allows changes to the sequence of the RNA without alterations to the underlying DNA code.

Brian says that their studies show that ADAR1 acts like a cellular security guard, who issues security passes to make sure that only authorised people can be in the building. “ADAR1 does this by tagging the normal cellular RNA with a distinct chemical signal: a ‘me’ tag. When there are unauthorised people in the building – such as when viral RNA enters the cell – it is recognised by the cell’s alarm system in the form of a protein called MDA5.”

The researchers honed in on the role of the ADAR1 by mutating a key function of ADAR1 – its ability to tag RNA.

“When we did so, 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 without an ADAR1-issued tag, the cell was not able to identify which RNA belonged to it. In effect, MDA5 triggered the alarm because it could no longer tell the difference between ‘self’ and ‘non-self’.”

Conversely, they found that by turning off MDA5, they could stop the cell from responding, by effectively removing the alarm system.

Mutations in the ADAR1 gene have been linked to a rare 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 research helps explain the mechanisms of the disease.

Brian has been offered a postdoctoral position in a laboratory at Harvard University, beginning in September. He is approaching his family’s upcoming move in his usual laconic way: with less than 3 weeks before departure, he is still to get a visa for Lola, and doesn’t yet have accommodation organised.

Luckily, that’s not the sort of thing that stresses him out.
Rosina's son Dane was 5 years old when he was diagnosed with type 1 diabetes. “There was no clear indication that Dane was unwell, which fortunately was because he was diagnosed quite quickly after onset. Some of the signs, upon reflection, included falling asleep (with difficulty waking) while attending kinder, and periods of high emotion that were not associated with specific incidents. The stand-out symptom was bedwetting; he hadn’t had problems before. This continued for about 2 weeks, with all of the normal strategies put into place including reduced drinking prior to bed and increased comfort around bedtime rituals. When we thought that Dane might have a bladder infection he was taken to our local GP who immediately investigated urine samples and swiftly diagnosed diabetes due to the levels of sugar present.

Dane’s reaction to his newly diagnosed condition was in line with his personality—laid back with an increased interest in the level of additional attention he was receiving from all!

His initial shock to injections and blood glucose monitoring was short-lived because of the immense support that was provided by his care team at the Royal Children’s Hospital. The same cannot be said however for us, his parents. Dane is now 9, and while diabetes is just part of our life, we still silently grieve and experience significant worry about the potential future impact on his life. Dane is very active in the management of his diabetes, constantly educating his school as a whole and having a very good understanding of the management of his insulin pump. He is conscious of the role of exercise and carbohydrates in his daily routine. While he attends regular appointments to assess the health of his eyes, teeth,
Seven year old Gary Wanganeen was born with hereditary pancreatitis, a condition that left him in excruciating pain, leading to multiple hospital admissions and restrictions on his activities, especially sport.

Head of the Islet Transplant Program at SVI, Professor Tom Kay, explains that treatments for people with the condition are limited. “One of the last resort options is complete removal of the pancreas, which cures the pain. Unfortunately this leaves the patient diabetic because they lose their pancreatic islets, the cells responsible for secreting insulin in response to changes in blood sugar.”

He says that a recent possibility for those undergoing removal of their pancreas is ‘islet auto-transplantation’. This involves harvesting the insulin-producing islets from the diseased pancreas and infusing them back into the liver of the patient, where they lodge and continue working as normal.

“This is a cutting-edge treatment, and is only offered in limited numbers of hospitals in the US,” says Tom. “The expertise that has been built up through the Australian Islet Transplantation Consortium meant that, with our colleagues in South Australia, and with the help of Dr Balamurugan Appakalai, an international pioneer in islet cell isolation, this could be offered as a treatment option for Gary.”

Gary’s pancreas was removed in Adelaide on July 14 and flown to SVI in Melbourne, where his islets were harvested and quality controlled. Gary’s islets were then taken back to Adelaide, and infused into his liver on the same day.

The cells, nestled in Gary’s liver, are now producing the insulin he needs.

“By removing his pancreas and isolating the islets, his pain will be much better, allowing him to come off opiates and hopefully have a much better childhood and adult life,” said Professor Toby Coates, Director of Kidney and Islet Transplantation at the Royal Adelaide Hospital.

“The islet auto-transplant should significantly improve his chances of avoiding diabetes, which would have been the inevitable consequence if he had had his pancreas removed otherwise.”

The surgery was the result of significant collaboration between WCH, Flinders Medical Centre and Royal Adelaide Hospital surgeons and staff working in SA Health’s islet transplant program, as well as SVI through the Australian Islet Transplantation Consortium.

He is now leader of the O’Brien Institute Department’s Cardiac Regeneration Group.

My childhood ambition was to... be a medical doctor.

My first job was... as a kitchen porter when I was an undergraduate student in Glasgow.

My worst job was... as a waiter in a Japanese restaurant.

My happiest moment was... successfully defending my doctoral thesis - it was a gruelling 5 hour face-to-face with examiners!

I got into research because... I enjoy discovery. Experiments can be routine but the research questions are always new and exciting.

If I wasn’t doing research, I would... work in the banking industry. Unlike researchers, they are loaded!

If I could live anywhere I would choose... nine months in Melbourne and three months in the UK.
Elda and Tony Schiavello, representing Schiavello Group and Schiavello Charitable Foundation, have been staunch supporters of SVI since joining the SVI $10,000 Discovery Fund in 2007. In 2015, they took their support a step further, with a $200,000 commitment over 5 years towards the purchase of technologies to aid research at SVI.

The Schiavello Group was established by Tony in the 1960s to provide interior fit out to Melbourne businesses. Since that time, in addition to designing and manufacturing workplace furniture, the company has worked to improve the interaction between space, technology and people for many businesses.

Associate Professor Natalie Sims, Chair of the Institute’s Equipment Committee, says that access to such funds is vital for SVI’s researchers. "Our research grants generally do not cover the cost of specialised equipment, so this generous donation will help keep our researchers at the cutting edge."

She says that all equipment purchases at the Institute are scrutinised carefully to ensure effective use of equipment and technologies and to encourage researchers to share resources.

She cites the Institute’s microCT as an example of the difference that the right equipment can make. The instrument was purchased in 2010 with philanthropic support from the Ian Potter Foundation. It revolutionised the way researchers analyse their results, saving time and significant costs and leading to discoveries in the areas of bone disease and cancer.

“We are very grateful to Schiavello Group and Schiavello Charitable Foundation who, by improving our access to the best equipment, are making a lasting contribution to Australian medical research,” says Natalie.

**2015 EVENTS DIARY**

**October 15**
SVI Support Group Black Tie Dinner

**October 23**
Jack Holt Charity Luncheon

**October 26**
SVI Charity Golf Day

**October 30**
YLC Halloween Party

**November TBC**
Jack Holt Society Bequest Morning Tea

One of Melbourne’s most prestigious social events, The Susan Alberti Medical Research Foundation Signature Ball, reached an historic milestone on Saturday August 22nd, with its thirtieth anniversary.

With each year bigger and better than the last, the evening was no exception, with a video welcome from the Prime Minister, a heart-felt endorsement from special guest Foreign Minister Julie Bishop and a glittering line-up of entertainment.

World-class talent included the Australian Ballet School, musical director Chong Lim and his orchestra and a breathtaking performance from Australia’s award-winning songstress Tina Arena in her only Melbourne performance for 2015.

The evening was a huge success, with all funds raised for diabetes research at Melbourne’s three oldest medical research institutes: SVI, The Walter and Eliza Hall Institute and Baker IDI.

There were many winners in the audience on the night, with opportunities to support the cause through auctions and a raffle. However, at the end of the day, the real winners will be those with diabetes, who benefit from the world-class medical research undertaken in Melbourne.

Many thanks to Sue Alberti and her Foundation, and those who supported the event.
SCIENCE FREAKTION

Announcing Science Freaktion: a 2015 Halloween Fundraiser, being held by YLC (Young Leadership Committee).

Come down to La Di Da on October 30th and support SVI research at YLC’s second annual Halloween Fundraiser! Tickets are just $35 and include canapés, a drink on arrival, entertainment, and a hauntingly good time. Get an instant costume upgrade from our face painting booth and hit the dance floor while supporting the search for a cure for type one diabetes. All of the event’s proceeds will be donated directly to SVI.

Tickets available from www.ylcvic.com

YLC promotes awareness of type 1 diabetes while raising money for research into its prevention, treatment and cure.

BACK STAGE AT SVI

SVI has recently hosted a number of tours of the Institute to educate school students and supporters of SVI about our research activities, the types of tools used to undertake medical research and reveal what it takes to become a researcher.

In May and July, students from FCJ College Benalla and Genazzano FCJ College visited SVI, met some researchers and toured our labs.

Both groups had the chance to see how drugs are developed using knowledge of a protein’s three-dimensional structure and to learn more about the mysteries of bone disease. The Genazzano students also had the opportunity to talk to some of SVI’s PhD students about their personal journey to becoming medical researchers.

In July, members of Melbourne’s Athenaeum Club toured SVI, hearing from researchers investigating bone disease, Alzheimer’s and heart disease.

Tours at SVI take about one hour; if you would like to organise a tour for a school or club, or you are interested in SVI research and would like to organise a tour for yourself, please contact the SVI Foundation on 9231 2480 or email us at foundation@svi.edu.au.
As Patron of SVI’s Jack Holt Society, which was established to honour those who have informed SVI that they are leaving a Bequest to the Institute, I would like to tell you about my personal experience and ask you to consider the legacy you want to leave when you die.

My loving wife of 55 years, Patricia, who was mother to our 11 children, passed away 3 years ago after a long battle with cancer.

Death can be a morbid subject, but when Pat and I discussed how we wanted to leave this world, we looked at what impact we were going to have on the world with our passing.

Pat trained as a nurse at St Vincent’s Hospital in the 1950s. Due to her affiliation with St Vincent’s we decided back in 2009 to make a Bequest favouring St Vincent’s Institute of Medical Research.

We asked our family solicitor to research the Institute on our behalf. He did this quietly, without SVI being aware, and he advised in their favour. SVI focuses on everyday medical problems that all of us can identify with: heart disease, arthritis, Alzheimer’s disease and cancer. My wife died of breast cancer and my daughter has not long ago been diagnosed with it.

All the diseases SVI research can, and will, affect you and me sooner or later.

SVI appealed to us because of its transparency, reliability, trustworthiness, low-key approach to fundraising, strict moral code and most importantly - SVI achieves results.

Just leaving a Bequest of 1% or 5% of your estate is not about decreasing your children’s inheritance, but more about providing your children and grandchildren with something they can be proud of and a part of. Choosing to do this has given me more meaning in my life than I could have imagined and upon my wife Pat’s death it has given me peace of mind, knowing that the vital work of SVI will continue after I die.

As the patron of the Jack Holt Society I earnestly ask you to consider joining me by including SVI in your Will.

Leave behind a legacy that will benefit others.

Give... so that others may live in hope.

Give... as an investment in your children’s health.

Give... so that you leave the world a better place than you found it.

Is there room in your Will to include a Bequest to SVI?

For more information on leaving a Bequest to SVI please contact the SVI Foundation on (03) 9231 2480 or email us at bequest@svi.edu.au
THE 2015 J ACK HOLT CHARITY LUNCHEON

WHEN: FRIDAY, OCTOBER 23RD
TIME: 12PM
WHERE: RACV CITY CLUB, MELBOURNE

Following the success of last year’s Inaugural Jack Holt Charity Breakfast, the Rotary Club of Brighton together with the Susan Alberti Medical Research Foundation (SAMRF) are holding a Jack Holt Charity Luncheon this year to raise funds for SVI.

The event, celebrating the legacy of famous Melbourne racehorse trainer Jack Holt, will be held as a precursor to the Melbourne Racing Carnival.

Tickets to the event can be purchased through the SAMRF office by phoning 9560 1595 or emailing info@susanalbertifoundation.org.au

SVI was established as a direct result of a bequest from Jack Holt of £200,000; making the lunch a great way to acknowledge his combined contribution to Victoria’s racing and medical research industries.
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 Dan Mars at 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.
   See our website, www.svi.edu.au if you would like to make periodic payments from your bank account or credit card.

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

- Visa number
- Expiry date
- Amount being paid $

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Title
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SVI is endorsed as a tax deductible gift recipient. All donations over $2 are tax deductible. SVIMR ABN: 52 004 705 640.

Please return to:
St Vincent’s Institute of Medical Research,
9 Princes St, Fitzroy, VIC 3065 Tel: (03) 9231 2480
Fax: (03) 9416 2676
Email: foundation@svi.edu.au  Web: www.svi.edu.au