



Hope turns 50

St Vincent's Institute Annual Report 2007

In the first half of the 20th century, the hope that Jack Holt

brought to the racetrack could be found in the roar of the crowds at Flemington, Caulfield and Randwick. Jack Holt, known at the time as the Wizard of Mordialloc, won three Caulfield Cups, two Sydney Cups, five Cox Plates and the 1933 Melbourne Cup. He headed the Victorian Trainer's list twelve times.

In the first half of the 21st century, Jack Holt still brings hope but it is of a different kind. For when he died in 1951, Jack Holt left 200,000 pounds (an enormous sum in those days) to establish a school of medical research at St Vincent's.

The money was enough to secure premises, hire staff and convince one of the world's leading biochemists, Dr Pehr Edman, to take the director's chair. The St Vincent's School of Medical Research officially opened on 23 April 1958.

In the 50 years since, St Vincent's Institute has made many major discoveries particularly in the study of proteins - the essential building blocks of the body. All diseases involve a change in protein behaviour. These breakthrough discoveries at SVI have in turn advanced approaches in treatment, offering hope to sufferers of diabetes, cancer, arthritis, osteoporosis, obesity and cardiovascular disease.

And in this coming year, SVI's fiftieth, the Institute is poised to make even more exciting advances. Our scientists and researchers are considered amongst the world's best. And each of them comes to work each day striving to give more hope to more people suffering debilitating disease.

Jack Holt's legacy lives on.

Half a century of Jack Holt's dream.

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Thank you

90 Donors and bequests

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Our mission

To carry out high-quality biomedical research in order to make discoveries that will improve the health of the community by prevention or better treatment of common diseases that cause premature death or reduced quality of life.

This is SVI

SVI is an independent institute conducting medical research into the cause, prevention and treatment of diseases that are common and have serious effects on health. We strive, through our research, to help alleviate the enormous financial, emotional and physical impacts of these diseases on individuals, their families and the community.

Our values

We value excellence, integrity, creativity, collaboration, individual drive, persistence, and the challenging of dogma.

Diseases studied at SVI

Type 1 and 2 diabetes Obesity and Heart disease Bone diseases such as Arthritis and Osteoporosis Cancer and the spread of cancer Infectious diseases such as Hepatitis and AIDS Alzheimer's and other neurological disorders Where hope begins. While the technology we use may be

complex, our aim is simple: to answer some basic questions about disease.

Drug discovery

- Proteins are one of the body's
- essential building blocks. In addition to forming the structure of the body, proteins control all functions in the body by acting as molecular engines.

In order to understand the function of proteins, we need to determine their structure. X-ray crystallography allows us to map the 3-D structure of proteins at the atomic level. Knowledge of protein structure enables the intelligent design of new drugs for the treatment of disease.

At SVI the major areas of crystallography research are targeted towards proteins involved in cancer such as breast and prostate cancers; brain diseases such as Alzheimer's disease and epilepsy; and infectious diseases such as HIV and hepatitis.

This is the focus of our Structural Biology Unit.

ls there a treatment for me?

Why is everyone's metabolism Sifferent?

Obesity & type 2 diabetes

Obesity is a major contributing factor in type 2 diabetes, cardiovascular disease and arthritis. While regular exercise and healthy eating are effective at preventing weight gain they are not successful for the long term treatment of most obese patients. For these patients, new aids to treatment need to be developed.

SVI researchers are studying the action of an enzyme called AMPK, which acts as the body's fuel gauge, activating the burning of fats and sugars when cells need energy. Research at SVI is focussed on identifying activators of this enzyme which may be used as a therapy to burn excess energy stores in the treatment of obesity and protect against conditions such as cardiovascular disease and type 2 diabetes.

This is the focus of our Protein Chemistry and Metabolism Unit.

Heart disease

Despite major advances in treatment, heart disease kills more Australians than any other disease. Heart disease covers a wide range of conditions including heart failure, arrhythmia, heart valve disease and cardiomyopathy.

The aim of research at SVI is to find out more about the cause of heart disease and how to predict and prevent the development of heart conditions through the study of heart tissue and the molecules involved in heart disease.

This is the focus of our Molecular Cardiology Unit.

WILL I GET HEATRT DISEASE?

Will my daughter have to take insulin for the rest of her life?

Type 1 diabetes

People with type 1 diabetes lack insulin, the hormone that regulates the body's use of glucose. Insulin is produced by beta cells in the pancreas, which are mistakenly attacked and destroyed by the immune system in type 1 diabetes.

Our researchers are focused on understanding the action of the molecules involved in this immune attack on beta cells with the aim of finding therapies to block or inhibit their action and preserve insulin production. These therapies will help prevent diabetes and its recurrence after transplantation of insulin-producing cells.

This is the focus of our Immunology and Diabetes Unit.

Autoimmune diseases

disease, multiple sclerosis and type usually protective immune system attacks its own tissue. The only treatments available alleviate the disease.

Researchers at SVI have identified proteins that control excessive their action.

This is the focus of our Signal **Transduction Unit.**

Why is my immune System

attacking my body?

Can we stop mum's arthritis getting worse?

Arthritis and osteoporosis

Bone is a surprisingly dynamic tissue, which is constantly being dissolved and rebuilt. Changes in the balance between bone growth and destruction can lead to disabling diseases such as arthritis and osteoporosis and cause excessive pain in bone metastasis.

SVI researchers aim to fully understand the processes of bone growth in order to develop new therapies that will block excessive bone destruction in diseases such as arthritis or assist the body to grow new bone in diseases such as osteoporosis.

This is the focus of our Bone, Joint and Cancer Unit.

Cancer

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When cancer develops, cells that are damaged by sun radiation, smoking or unknown causes grow in an uncontrolled way. Cancer cells can break away from the resulting tumour and travel via the bloodstream or lymphatic system to different parts of the body and form a secondary cancer or metastasis. It is usually the spread of cancer to the major organs and bone, rather than the growth of the primary tumour, that leads to treatment failure.

Many factors cause cancer to develop and spread and for this reason SVI has several groups of scientists investigating different aspects including: DNA damage and how it initiates cancer; increased cell multiplication in cancer; various causes of cancer spread; the effects of cancer on bone; and potential therapies. Another group is investigating whether drugs can induce remission in leukaemia.

This is the focus of our: Bone, Joint & Cancer Unit **Cell Cycle & Cancer Unit Molecular Genetics Unit**

Cytoskeleton & Cancer Unit **VBCRC** Invasion & Metastasis Unit **Pharmacogenomics** Unit Haematology & Leukaemia Unit ACRF Rational Drug **Discovery Facility**



Will My caucer Spread?

I JUST WANT TO KNOW WHAT IS WRONG WITH ME?

Infectious diseases

To prevent the spread of blood borne diseases and enable early diagnosis and lifesaving treatment, it is necessary for blood testing laboratories to use the best techniques and constantly monitor the accuracy of test results.

The National Serology Reference Laboratory provides quality assurance materials to laboratories that test for blood borne diseases in Australia and internationally. These materials, backed by support and guidance from NRL, are used to ensure that test results in each laboratory are correct. Building on this, the NRL conducts research to develop tests that better define the duration of infection in an individual, thus enabling improved treatment decisions and support of vaccine development.

This is the focus of the National Serology Reference Laboratory.



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"published... in the prestigious journal, Cell"

New to SVI: Dr Louise Purton and Dr Carl Walkley returning to Australia from Harvard.

progression of blood cell diseases such as leukaemia. Prior to this discovery, these diseases were thought to occur due to a defect in the blood cells, rather than a defect in the microenvironment cells. A better understanding of how the diseases occur will help to develop better treatment options. Models developed through these studies provide a unique opportunity for the researchers, who have now established a group at SVI, to investigate the nature of these diseases more thoroughly.

Potential new Alzheimer's therapy

The research of PhD student Geoffrey Kong, who worked with Professor Michael Parker in SVI's Structural Biology Unit, may lead to a new therapeutic approach for Alzheimer's disease. A protein called Amyloid Precursor Protein (APP) has been shown to play an important role in the disease process. When a part of this protein, called APP amyloid β peptide (A β), breaks off it becomes toxic to the cell and is thought to cause the damage that results in Alzheimer's disease.

Using X-ray crystallography technology, SVI researchers have revealed the structure of part of the APP protein. Knowledge of this structure has allowed SVI researchers to predict ways in which the production of the toxic $A\beta$ peptide may be disrupted. This will form the springboard for investigations into how the protein works and for developing novel therapies for Alzheimer's.

First diabetes transplant in Victoria

Through the Tom Mandel Islet Transplantation Program, led by SVI's Professor Tom Kay, a Glen Waverley woman has become the first Victorian to be successfully transplanted with insulin-producing islet cells. This program is being delivered as part of a Melbournewide, multi-disciplinary collaboration that includes participants from St Vincent's Hospital Melbourne, St Vincent's Institute, Austin Health and the Centre for Blood Cell Therapies at the Peter MacCallum Cancer Centre. The program is part of a national consortium involving Westmead Hospital in Sydney and the Oueen Elizabeth Hospital in Adelaide, and is being funded by the Australian Department of Health and Ageing and the Juvenile Diabetes Research Foundation.

This new type of transplant surgery will help people with a severe form of type 1 (juvenile) diabetes. In type 1 diabetes, insulin can no longer be produced by the pancreas and must be administered several times a day, lifelong, to reduce blood sugar to healthy levels. In some people, this insulin treatment can drop blood sugar levels suddenly and without warning to dangerous levels, leading at times to life-threatening consequences. The islet transplant program is currently aimed at this group of people but with further research may lead to a more generally available clinical procedure.

The first recipient's life has changed dramatically after the islet transplant. She is producing significant amounts of her own insulin and only occasionally experiences very low blood sugar levels. A second transplant is planned, within the next six months. to further reduce her need for insulin hopefully to the point where insulin injections are no longer needed.



"first recipient's life has changed dramatically"

The first islet transplant recipient in Victoria, Elaine Robinson.

2007 Research Highlights

Scientists return

SVI is pleased to welcome two new researchers, Drs Carl Walkley and Louise Purton, who have returned from post-doctoral studies in the US to join the Bone, Joint and Cancer Unit. These researchers published their work on the role of the bone marrow microenvironment in the development of blood cell diseases in the prestigious journal, Cell, along with SVI's Dr Natalie Sims.

All developing blood cells, including blood stem cells, reside in the bone marrow space in specialised "microenvironments" which help to regulate the production of billions of blood cells per day. While recent studies have provided important information about the regulation of normal blood cell production in the bone marrow by these microenvironments, until the studies of Drs Purton, Walkley and colleagues, little was know about the contribution of the microenvironment to blood cell diseases.

The researchers showed that bone marrow microenvironments play an active role in the initiation and



2007 Institute

Highlights

Grants success

SVI will receive over \$9 million in

Government funding over the next

3-5 years to conduct vital research

disease, diabetes, cancer and AIDS.

SVI receives nearly two thirds of its

funding through Government grants.

Grants from the National Health and

Medical Research Council (NHMRC)

and Australian Research Council

2007 with SVI achieving a 42%

average of 28%.

(ARC) were announced in October

application success rate for NHMRC

Grants awarded include \$3.5 million

for research into the immune attack

on pancreatic beta cells leading to

type 1 diabetes. Researchers will

preventing rejection of pancreatic

Four groups of researchers investigating

ways to prevent the growth and spread

of cancer received a total of \$1.8 million.

Obesity research received a boost

of more than \$1.3 million and new

islet transplants, a treatment for

severe forms of type 1 diabetes.

use the funds to find ways of

Project Grants, well above the national

into obesity, Alzheimer's, bone

ACRF Chairman, Mr Dery presents a cheque to lead researchers Associate Professor Gillespie and Professor Parker with The Hon Mr Brumby MP, SVI Director, Professor Kay and SVI Chair, Ms Shanahan (from l-r).

research being conducted by the SVI Bone, Joint and Cancer Unit attracted funding of nearly \$1 million.

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Speeding up the search for new anti-cancer treatments

A new drug discovery facility, funded by the Australian Cancer Research Foundation (ACRF), was opened at SVI on 1 March by The Hon. John Brumby, MP, in his former capacity as Minister for Innovation.

The \$1.1 million facility will speed up the search for new anti-cancer treatments. It includes a new X-ray crystallography machine, which works at five times the speed of its predecessor; virtual screening computers; and drug compound validation equipment.

Australian Cancer Research Foundation Chairman Tom Dery presented a \$900,000 cheque to SVI Director, Professor Tom Kay and lead researchers, Professor Michael Parker and Associate Professor Matthew Gillespie.

Diabetes Centre for Clinical Research Excellence

Australia's first Diabetes Centre for Clinical Research Excellence (CCRE) was launched on 1 November 2007, made possible by a \$2 million NHMRC grant.

Bringing together a multi-disciplinary team involved in all aspects of diabetes research and care, the Centre includes experts from The University of Melbourne, St Vincent's Institute, St Vincent's Hospital and the Centre for Eye Research Australia.

The major focus of the new Diabetes CCRE is to find ways to prevent diabetes and its devastating complications. Recognised as a national health priority with over one million Australians suffering from the disease, diabetes is a major cause of heart disease, stroke, amputations, blindness and kidney disease.

Led by Professor James Best, Professor Kerin O'Dea, Professor Hugh Taylor, Professor Tom Kay, Associate Professor Alicia Jenkins and Professor Doris Young and involving over 30 worldclass researchers, the collaborative centre is the largest concentration of diabetes research in Australia.

Vision for Enhanced Collaboration at St Vincent's, Melbourne

2007 saw the launch of a campaign to create a new International Research Centre in the heart of Melbourne at St Vincent's. The new centre is planned to deliver new collaborative approaches and provide state of the art facilities for the growing research institutes affiliated to St Vincent's to further establish the precinct as a world leader in health outcomefocussed research.

This unique research facility, aiming to be developed on the corner of Victoria Parade and Nicholson Street by 2014, will bring together major research institutes, healthcare facilities and academia including partners such as St Vincent's Hospital, the University of Melbourne, St Vincent's Institute, Bernard O'Brien Institute of Microsurgery and the Bionic Ear Institute.

Closer collaboration between the St Vincent's campus researchers and clinicians in this new facility will align research with innovative health outcomes to enable major steps to be taken in the prevention and better treatment of major diseases such as obesity, diabetes, heart disease, arthritis, mental disorders and cancer. Further business planning and work is being undertaken in 2008 to achieve this vision.



"SVI receives nearly two-thirds of its funding through Government grants"

SVI researcher, Jörg Heierhorst received a NHMRC cancer research grant.



Current SVI PhD student Shanna Tam graduated with an Honours degree in 2006.

"...its location within a teaching and research hospital campus makes it easy for cross-campus collaborations"



Lorien Parker, Structural Biology PhD student.

"...coming here has been excellent for my studies and for planning my career"

World-class opportunities for students at SVI

When a student chooses undergraduate or postgraduate training at SVI, they will be under the supervision of some of the world's leading scientists. They will also benefit from the unusually high collaboration between labs while working toward their project goals.

SVI offers training in cell biology, protein structural biology, biochemistry, immunology and cell signalling, as well as clinical research into diseases including cancer, diabetes and bone disease.

The Institute is a centre of worldwide excellence for research into diseases with high impact on the community, including diabetes type 1 and 2, obesity and heart disease, arthritis and osteoporosis, cancer and the spread of cancer, Alzheimer's Disease and other neurological disorders.

Undergraduate Education SVI Honours Programs

More information: Associate Professor Ora Bernard, Student Coordinator, SVI Tel: 9288 2480 or email: obernard@svi.edu.au

Applications close on 30th November each year.

Undergraduate Research Opportunities Program (UROP) More information:

www.bio21.com.au/urop.asp Or contact: Associate Professor Robyn Starr, SVI Tel: 9288 2480 or email: rstarr@svi.edu.au

Applications open in April and September, to be lodged directly with Bio21.

SVI Honours students awarded top marks

All graduating Honours students in 2007 received First Class (H1) awards following their year of study at SVI. Xianning Lai, Audrey Day, Sarah Vickery and Louis Italiano carried out research projects in cancer, bone disease and structural biology supervised by SVI scientists, Associate Professor Jörg Heierhorst, Associate Professor Matthew Gillespie, Dr Mark Waltham and Professor Michael Parker.

SVI Honours student, Shanna Tam graduated with a First Class Honours degree in 2006 and commenced her PhD study at SVI in 2007. She is continuing research into AMPK, an enzyme responsible for metabolism control in Professor Bruce Kemp's Protein Chemistry and Metabolism Unit. Shanna received a fee remission and living stipend scholarship to support her through her research studies.

She said: "SVI is a great place to study because its location within a teaching and research hospital campus makes it easy for crosscampus collaborations and learning with diverse departments and groups, while its affiliation to the University of Melbourne means SVI postgraduate students can enjoy the support and facilities of the University. The research carried out in SVI is world-class and I'm glad to be part of it."

Postgraduate Education

Join the 29 students studying for their PhD at SVI, supervised by leading Australian scientists. There are options to enrol through the University of Melbourne, Department of Biochemistry and the University of Melbourne Departments of Medicine and Surgery at St Vincent's Hospital.

SVI PhD Programs

More information: www.svi.edu.au/ education/phdprojects

Or contact: Associate Professor Robyn Starr, Postgraduate Student Coordinator, SVI Tel: 9288 2480 or email: rstarr@svi.edu.au

PhD making a difference in cancer treatment

Lorien Parker commenced her PhD studies in SVI's Structural Biology Unit in 2004. She said: "I wanted to learn structural biology techniques for my PhD. SVI and Professor Michael Parker are world leaders in the field of crystallography and coming here has been excellent for my studies and for planning my career. I've had great support at SVI and been given excellent opportunities to travel to overseas conferences and present my work".

She continued: "I am researching a protein which contributes, among other things, to the development of resistance in cancer chemotherapy treatment. The aim of my project is



"...it is important to have won competitive scholarships when applying for research funding later on"

SVI PhD scholarship recipient, David Ascher

to determine the 3-D structure of this protein so that drugs can be designed that inhibit its action, with the ultimate aim of making the body more responsive to lower doses of chemotherapy drugs".

"SVI has a great inter-disciplinary environment, lots of interaction between research groups within the institute, as well as around the world, and access to cutting edge technologies. There are many prominent scientists regularly making presentations here and a lot of social interaction between students across the St Vincent's campus."

Scholarship Awards

There are several scholarship options available through the University of Melbourne, NHMRC and SVI:

- Australian Postgraduate Awards (APA)
- University of Melbourne, Melbourne Research Scholarships (MRS) http://cms.services.unimelb.edu.au/ scholarships/pgrad
- NHMRC Dora Lush Biomedical Postgraduate Research Scholarships http://www.nhmrc.gov.au/fellows/ apply/granttype/scholars/lush.htm

SVI PhD & Honours Scholarships

Students commencing fulltime research at SVI are invited to apply for top-up PhD or Honours awards. Successful applicants will receive a \$5,000 p.a. top-up stipend for 3 years (PhD) or 1 year (Hons).

More information: www.svi.edu.au/scholarships Or contact: Associate Professor Robyn Starr, SVI Foundation Student Awards Coordinator Tel: 9288 2480 or email: pgscholarships2008@svi.edu.au

PhD applications due: 31 October 2008

Honours applications due: 30 November 2008

Scholarship an important opportunity

SVI PhD student, David Ascher, received a top-up scholarship of \$5,000 per year for three years in 2007. He said: "The scholarship itself has been invaluable to me making it easier to live on a student salary, purchase a laptop and relocate from Queensland. Academically, it is important to have won competitive scholarships when applying for research funding later on. It can be the difference between getting or missing out on an important opportunity."

Congratulations to the students undertaking their studies at SVI who were awarded scholarships in 2007:

SVI Support Group sponsored:

Louis Italiano, Honours student Shanna Tam, PhD student

Dansu sponsored:

Sarah Turpin, PhD student Nirupa Sachithanandan, PhD student

Hugh Doherty sponsored: Joel Fletcher, PhD student

Major Engineering sponsored: David Ascher, PhD student

University of Melbourne sponsored: Hasnawati Saleh, PhD student Shanna Tam. PhD

NHMRC sponsored:

Ally Chau, PhD Vanessa Cheung, PhD Julie Quach, PhD

St Vincent's Student Society

The Student Society is run by students and organises both social and career development events throughout the year. An offsite Student Retreat is held annually, providing great educational and socialising opportunities for students. The 2007 Retreat was held at Portsea Camp and was a great success. The main speaker, Dr Andi from Melbourne Museum and RRR radio (Einstein a go go) received rave reviews. The weekend included sessions on career planning, overseas placements, scholarships, pharmaceutical sales, as well as yoga and relaxation sessions.



"...there are many people to thank for the institute's progress over 50 years..."

SVI turns 50 this year. With half a century of successful research behind us, our work aims to have an impact on the average Australian's longevity and quality of life. SVI was established through a bequest from Jack Holt and was the third independent medical research institute in Melbourne. We have had decades of growth in income and staff numbers and many outstanding achievements. In 1997, a study showed that our productivity was very high measured by the number of times scientists elsewhere cited the work of SVI's scientists.

A recent analysis suggests this is still the case and we are among the top research institutes in Australia by this measure. Our progress is ultimately measured by the impact of our discoveries on how diseases are treated. Past examples have included Edman's protein sequenator,

the discovery of parathyroid hormone-related protein and its role in the effects of cancer on the skeleton, and the purification of AMP dependent protein kinase, the body's fuel gauge. The values upon which the Institute is built include excellence, ethics, innovation, creativity, collaboration, team work, individual drive, persistence, integrity, questioning of dogma and attention to detail. These values are personified in our prominent leaders including our past directors Pehr Edman, Frank Morgan and Jack Martin and prominent current scientific staff such as Bruce Kemp and Michael Parker. These indisputably major figures in Australian medical research represent the epitome of high standards of rigour and integrity.

Self-promotion and public relations are not part of this ethos! However, SVI has a great story to tell not only about science, but also about the more human dimension of what we are trying to achieve.Communicating our work to a broad community audience is an important obligation. We tell our story through the Annual Report, newsletters, videos and our functions. Our ability to do this has been enhanced by our staff who support these activities including Robin Berry, Clare Lacey and Jo Crowston. A good example of the human aspect of our research was Victoria's first islet transplant for diabetes that was performed in December 2007. Elaine Robinson, our first recipient has recently received her second infusion of cells and is producing her own insulin for the first time in 25 years.

We are always thinking about recruiting the best possible staff to enable the Institute to grow and flourish, and it is very exciting to welcome Drs Louise Purton and Carl Walkley to SVI. They have previously worked at the Massachusetts General Hospital and Harvard Medical School, respectively. Their interest is the interaction between bone cells and blood stem cells in the bone marrow. They will add a new dimension to the work of the Bone Group at SVI. The Bone Group also farewells Matt Gillespie and his group as Matt takes up his position as Director of Prince Henry's Institute at Monash Medical Centre. We congratulate him on this prestigious appointment and wish him well.

An exciting development over the past year has been plans to co-locate all the research on the St. Vincent's campus in a major new research building. This is to be located on the landmark site on the corner of Victoria Parade and Nicholson Street. It is anticipated that the precinct will include participation from the Hospital, several University of Melbourne Departments, SVI, the Bernard O'Brien Institute of Microsurgery, the Bionic Ear Institute and others. This is an ambitious project that, if approved by government, will take several years to complete. The opportunities of close collaboration and integration between laboratory research, clinical research and clinical practice are exciting and potentially of great benefit. SVI is fully engaged in the planning process and looks forward to providing scientific leadership to the new precinct while retaining our distinctive culture of high-quality, laboratory-based biomedical research with leading edge technology.

In closing, there are many people to thank for the Institute's progress over 50 years, including past and present Board members and Foundation Board members, scientific staff and alumni, Sisters of Charity past and present, donors and funding agencies. We hope to have contact with as many of you as possible over the course of our birthday celebrations in 2008 and we sincerely thank you for your support.

Bundy H. Shanakan

BM Shanahan SVI Chair

Ost.

TWC Kay SVI Director



Ms Brenda M Shanahan 9 BEc BComm Chair, St Vincent's Institute

Ms Shanahan has a research background in finance in Australian and overseas economies and share markets. She is Chair of St Vincent's Health Melbourne. Challenger Listed Investments, Clinuvel Pharmaceuticals Ltd and Loop Ltd; Board member of the Sisters of Charity Health Service Ltd; and Non Executive Director of JM Financial Group Ltd. She is a former member of the Australian Stock Exchange and former Executive Director of a stockbroking firm, a fund management company and an actuarial company.

Mr Douglas A Wright 5 FAICD

Deputy Chair, St Vincent's Institute

Mr Wright is a founder and Chair of Wrights, a group of Australian-owned communications, marketing, research and IT consultancies. He is a public affairs strategist and has worked in the media and business in Australia and overseas. He is Asia Pacific Chair of Worldcom, the largest network of independent public relations firms and a member of the Australian Bankers' Association Small Business Forum. Mr Wright is an Associate Fellow of the Australian Marketing Institute and a member of the Public Relations Institute of Australia, the Counsellors'

Academy of the Public Relations Society of America and the Institute of Chartered Public Relations (UK).

Dr Susan M Alberti 3 AO HonLLD

Dr Alberti is co-founder and Managing Director of DANSU Group and associated companies. She has a strong commitment to fundraising and promotion of juvenile diabetes, and is the National President of the Juvenile Diabetes Research Foundation Australia and a member of the Board of Chancellors of the Juvenile Diabetes Research Foundation International. Dr Alberti is the Foundation Board Chair of St Vincent's Institute; Patron and Football Club; and founding and Co-Chairman of the Western Bulldogs Forever Foundation.

Professor James A Angus BSc PhD FAA

Professor Angus is Dean, Faculty of Medicine, Dentistry and Health Sciences, The University of Melbourne. Prior to this appointment, he was Professor and Head of the Department of Pharmacology; and Deputy Dean of the Faculty of Medicine, Dentistry and Health Sciences; President of the Academic Board; and Pro Vice-Chancellor, The University of Melbourne. He is a member of the Bio21 Institute Management Committee and First Vice-President of the International Union of Pharmacology. He has extensive research experience in preclinical pharmacology in the areas of cardiovascular and antinociceptive drugs.

Professor James D Best

MBBS MD FRACP FRCPath FRCP Edin

Professor Best is Head of the School of Medicine in the Faculty of Medicine, Dentistry and Health Sciences at The University of Melbourne and Professor of Medicine in the Department of Medicine, St Vincent's Hospital, Melbourne. As a member of Council for the National Health and Medical Research Council (NHMRC), he chairs the NHMRC Research Committee.

Mr Jeff Clifton 8 BCE DIPCe

Mr Clifton is currently the Managing Director of Clifton Property Group, which consists of a development management group, Clifton Hall Consulting and a project management group, CBM Project Management. Both companies serve the Australian property industry and Mr Clifton has been in the property industry for over 35 years. Mr Clifton was formerly Executive Chairman of Farsands and Managing Director of the Clifton Coney Group, which are now part of Coffey International following a sale of the business. Mr Clifton is also a Director of OIML Pty Ltd, the responsible entity of the





Timbercorp Primary Infrastructure Fund.

Ms Nicole Feely 6 BComm LLB F.A.I.C.D

Ms Feely is the Chief Executive Officer, St Vincent's Health, Melbourne and has a background in business law, politics and administration in both the private and public sectors.

Mr Paul Holyoake 2

BEngMech (Hons) MEngSci

Mr Holyoake is currently Executive Chairman, Oakton Limited, an ASX listed, information technology services company. From June 1988 to June 2005, Mr Holyoake was Managing Director and Chief Executive Officer, Oakton Limited.

Mr Barry J Jackson

BComm (Hons) MAICD

Mr Jackson is a Director of Paperlinx Ltd, Alesco Corporation Ltd, Equity Trustees Ltd and CSR Ltd (retired 03/07). He was formerly Managing Director of Pacifica Group Ltd from 1995 until 2001 and has over 30 years experience in manufacturing and industrial marketing.

Professor Thomas WH Kay 1

BMedSc MBBS PhD Melb FRACP FRCPA

Professor Kay is Director of St Vincent's Institute. He holds a Professorial appointment within the Department of Medicine, St Vincent's Hospital and The University of Melbourne. He also holds the position of Honorary Endocrinologist at St Vincent's Hospital. Professor Kay's research interests are in the area of autoimmunity, particularly in type 1 (juvenile) diabetes.

Mr Michael McGinniss 7 BComm (Hons) MEc

Mr McGinniss retired from a senior position as a partner with PricewaterhouseCoopers, Chartered Accountants in 2000. Since then he has taken up a number of Board positions in the not-for-profit and commercial sectors and also serves as a Trustee of The Marian & EH Flack Trust.

Ms Ruth O'Shannassy 10 BComm

Ms O'Shannassy worked in economic research in the finance industry in Melbourne before moving overseas. She spent seven years living and working offshore, primarily as a stockbroker in London and Asia before returning to Australia.

Mr John Pizzey 11

BE(Chem) Fell Dip (Management) FAICD FAIM

Mr Pizzey retired from Alcoa in December 2003 where he was Executive Vice President of Alcoa Inc (USA) and Group President, Primary Products. He was Chairman of the International Aluminium Institute Ltd (UK) in 2002 and 2003, and Chairman of the London Metal Exchange Ltd (UK) in 2003. Mr Pizzey is currently a Director of Alumina Ltd, Amcor Ltd and Iluka Resources Ltd. He is also a member of the Board of Governors at Ivanhoe Grammar School. He was Director of WMC Resources Ltd from 2003 to 2005, Chairman of Range River Gold Ltd from 2004 to 2006 and ION Ltd (in administration) from 1999 to 2005.

Mr Gregory Robinson 4

BSc(Hons) MBA (Columbia)

Mr Robinson is Finance Director, Newcrest Mining, responsible for the group's finance function and for leading strategy, planning and business development activities. Prior to joining Newcrest, Mr Robinson was with the BHP Billiton Group for the period 2001 to 2006 where he held the positions of Project Director of the Corporation Alignment Project, Chief Finance and Chief Development Officer, Energy and Chief Financial Officer, Petroleum. He was also a member of the Energy Executive Committee and Group Executive Committee. Before joining BHP Billiton, Mr Robinson was Director of Investment Banking at Merrill Lynch & Co and headed the Asia Pacific Metals and Mining Group.

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SVI Foundation, Chair Report

SVI celebrates 50 years of medical research this year and I am proud to be part of an Institute which has contributed so much to medicine in the past and has so much more to offer in the future. In 2007 we continued to build on the success of previous years to provide secure funding for SVI for many years to come.

SVI \$10,000 Discovery Fund

The Foundation Board is committed to building a capital accumulation fund for SVI which will be invested in Australian equities with returns being used to support future research initiatives. I would like to thank all the donors to the \$10,000 Discovery Fund in 2007 and Foundation Board member, Christine Tarascio, who is leading this initiative.

Fundraising Events

In 2007, I was delighted to bring together my passion for medical research and football in 2007 with our main event of the year, Dancing with the Dogs, where Western Bulldogs players paired with professional dancers for a fun and entertaining night. The SVI Support Group organised an excellent luncheon at Kooyong Tennis Club, raising funds for student scholarships and the Young SVI committee had another successful year of fundraising. Thank you to the participants, organisers and donors towards all our events.

1000 Club and Networking Events

Being part of the SVI \$1000 Club gave members the opportunity to attend dinners with high profile speaks such as Mark Scott, MD of ABC; Ross Stevenson of 3AW; Bruce Guthrie, Editor-in-Chief, Herald Sun; AFL legend, David Parkin and lawyer, Joey Borensztajn this year. These dinners give guests the opportunity to mix with leading members of the Melbourne business community and we look forward to seeing you at our 2008 events.

Hope for the future

Those of you who have been touched by disease will know how important it is to support the dedicated researchers at SVI who bring hope of a healthier future to us all. There are many ways you can help, such as making SVI the beneficiary of a celebration or company event; funding research into a particular disease, the purchase of vital equipment, the career of a young scientist; or volunteering on one of our committees.

We hope you will join us in 2008 and make a difference to the future health of your family and community.

Thank you for your continued support.

God Bless,

Dr Susan Alberti AO HonLLD SVI Foundation Chair

SVI Foundation Highlights

Dinner and Dancing Dancing with the Dogs 4 August 2007

St Vincent's Institute and the Western Bulldogs Football Club teamed up for a very special night of dinner and dancing on 4 August. The highlight of the night was a series of display dances by nine Bulldog players, trained by Dancing with the Stars judge, Mark Wilson and their professional dance partners.

Top Chefs support research

Ten top Melbourne chefs donated amazing meal packages to the Dancing with the Dogs auction in 2007. We would like to thank:

- Phillipe Mouchel of the brasserie by Phillippe Mouchel
- Teage Ezard of ezard
- Raymond Capaldi of Fenix





Speaker, Jan Morlacci of major event sponsor, Campbellfield Concrete

Bulldogs player, Farren Ray and his professional dance partner, Jessica Perrino, winners of the Dynamic Dogs Trophy.

- Guy Grossi of Grossi Florentino
- Jacques Reymond
- of Jacques Reymond
- Martin Boetz of Longrain - Matteo Pignatelli of Matteo's

- George Colombaris of
- The Press Club – Shannon Bennett of
- vue de monde

1000 Club

Dinners

We would like to thank the members of the SVI 1000 Club who together are making a difference to medical research at SVI. New and renewing members enjoy the benefits of attending a

1000 Club Networking

A series of dinners were

supporters the opportunity

to hear from high profile guest speakers and mix

with Melbourne business

Commercial and taxation

Breakfast show presenter,

Managing Director, ABC

community leaders.

Arnold, Bloch Leiber

Joey Borensztajn

6 March 2007

3AW Radio

5 July 2007

Mark Scott

31 July 2007

Herald Sun

David Parkin

and coach

Former AFL player

29 November 2007

Bruce Guthrie

Editor-in-Chief,

Ross Stevenson

lawyer

held at Crown Casino to give SVI 1000 Club wide range of events with high-profile speakers and the opportunity to network with other members of the Club. To commence or renew your membership, please see the back page.







(From l-r) Brenda Shanahan, SVI Chair; Joey Borensztajn and Fiona Trueman, Arnold, Bloch Leiber; and Tom Kay, SVI Director.

Ross Stevenson, 3AW Mark Scott, MD, ABC Bruce Guthrie, Editor-in-Chief, Herald Sun David Parkin, former AFL player and coach

- 23 October 2007
- Greg Malouf of MoMo
- Ricardo Memesso of Sarti – Scott Pickett of The Point

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Third Party Events

SVI welcomes the opportunity to be involved with your events held in support of medical research. We can provide speakers, adding a new dimension to the event and enabling your organisation to associate with leading medical research.

SVI Charity Dinner 19 September 2007

The Italian Chamber of Commerce and Industry (ICCI) hosted a dinner, sponsored by Salta Properties, which brought together the Italian business community of Melbourne. Sam Tarascio, Managing Director of Salta Properties and SVI Foundation Board member, gave a speech about his family's involvement in medical research at SVI.

ICCI Mediterranean Diet Seminar

November 2007 Dr Greg Steinberg, obesity researcher in SVI's Protein Chemistry and Metabolism Unit, discussed the key health issues linked to obesity at the ICCI's Mediterranean Diet Seminar in November.



Sam Tarascio, MD, Salta Properties and SVI Foundation Board member with the Charity Dinner chef.

Giving in Celebration

Asking guests to donate to SVI in lieu of gifts is a wonderful way to support vital medical research and introduce your friends and family to SVI. We are very grateful for the generous donations from guests invited to celebrate:

- Susan Alberti's birthday
- David Smorgon's birthday
- Peter Morlacci's birthday
- Judy Dodge's birthday
- Guy Fanning's birthday – Alison Davies and Steve
- Chapman's wedding

Scholarship Funding Kooyong Luncheon 21 October 2007

> The SVI Support Group, led by Claire O'Callaghan, organised a successful luncheon event at Kooyong Tennis Club attended by 160 people, which raised over \$26,000 for the SVI Student Scholarship Awards.



Claire O'Callaghan

Young SVI

The Young SVI committee, led by Renton Carlyle-Taylor, organised a series of fun, fundraising events in 2007, which have become annual fixtures on the YSVI calendar.

YSVI Lab Tour 1st February 2007

Grand Prix Eve Party 17 March 2007 Waterside Hotel

A Day at the Races 10 November 2007 Spring Racing Carnival, Flemington Racecourse



YSVI supporters at A Day at the Races (I-r) Lauren Morlacci, Frank Condello, Suzanne Morlacci, Renton Carlyle -Taylor, Peta Lucas, Andrea Collins and Anthony Curcio.

SVI benefits from Sidney Nolan sale

Our thanks to Lady Susan Renouf who donated \$37,400 to SVI in April following the sale of Ned Kelly – Outlaw, painted by Sidney Nolan in 1955.



Lady Susan Renouf and the Sidney Nolan painting, 'Ned Kelly – Outlaw'.

• Funding the

• Future

\$10,000 Discovery Fund Launch 16 August 2007

> SVI's \$10.000 Discovery Fund got off to a good start in 2006 and continued to arow in 2007 following the launch event kindly hosted by Dr Susan Alberti AO Hon LLD. All donations will be invested in a capital accumulation fund for five years to provide support for future research initiatives at SVI. If you would like to contribute to the fund. contact Christine Tarascio on 0418 318627 or complete the form on the back page.

Thank you to our generous \$10,000 Discovery Fund donors:

- Joe & Gwen Arcaro, Joe Arcaro & Associates Pty Ltd
- Susan Alberti AO, Susan Alberti Charitable Foundation
- Michael Cole

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- Gold Age Aged Care
- Henry Kalus, Kalus Kenny Lawyers – Michael Lanyon,
- Logie-Smith Lanyon
- John McMurrick
- Robert Mills, Robert Mills Architect Pty Ltd
- Colin North
- Ross Savas, Kay and Burton
- Jason & Gabby Scillio
- Tony & Joe Schiavello, Schiavello Group Pty Ltd
- Brenda Shanahan Charitable Foundation
- Geoff Stansen, UBS Wealth Management Australia Ltd
- Sam & Christine Tarascio, Salta Properties Pty Ltd
- Graham Terry, Centro Properties
- Ross & Elizabeth Wilkie

Trusts and Foundations

Donations aid research into major diseases

Funds received from Trusts and Foundation donors to SVI in 2007 will help researchers discover more about Alzheimer's, cancer, diabetes and heart disease.

The equipment funded includes a 3-D echocardiography machine that will enable clinical research studies into heart disease; a centrifuge which will speed up research into the disease causing proteins involved in cancer and Alzheimer's; and a Xenogen IVIS Bioluminesence Imaging System which will be used by many SVI research groups, particularly those involved in cancer research. We would like to thank the following Trusts and Foundations for their support of medical research equipment, fellowships and career support in 2007:

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- Janina and Bill Amiet Foundation
- The Angior Family Foundation
- Bennelong Trust
- Rebecca L Cooper Medical
- Research Foundation Ltd – Harold and Cora Brennen
- Benevolent Trust – The Jack Brockhoff Foundation
- Marian and EH Flack Trust
- The JB Were Goldman Sachs Foundation
- Helen Macpherson Smith Trust
- Harold Mitchell Foundation
- The Ian Potter Foundation
- The Clive and Vera Ramaciotti Foundation
- The State Trustees

Thankyou to our 1000 Club donors

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R (R - Dec) Smorgon, T Smorgon, V Solomon, Q & E Southwick, G & S Spry-Bailey, P Spry-Bailey AO, P Stapleton, M Steven, J Stooke, K Stops, G & W Strategic Advantage Pty Ltd Strategic Advantage Pty Ltd (2) Stubbs, C & C Sun Foundation Swaney, S Tabak, L Tarascio, L Tarascio, S & C Tashi, R The Barro Group The Brenda Shanahan Charitable Foundation The Michael & Andrew Buxton Foundation Thomas, C & C Thurin, D & L Tongzi Pty Limited Trivett Classic Tuckfield, PC Turner, J Turner, R Verdnik, A Vermont Cancer Research Fundraising Group Watson, B & Le Maistre, E Webb, B Webb. M Wellington, C Werribee Nissan Westmore-Peyton, C White, L Whitehead, M & M Whiting, N & T Wilkie, R & L Wilson, P & G Wraith, A Wright, D Xipell, J Xipell, T Yencken, T & M York, G Young, C Young, D Young, D Young, H Yu, MK Zagame Hotels

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Dr Susan M Alberti 1 AO HonLLD Chair. SVI Foundation Board

Dr Alberti is co-founder and Managing Director of DANSU Group and associated companies. She has a strong commitment to fundraising and promotion of juvenile diabetes, and is the National President of the Juvenile Diabetes Research Foundation Australia and International Board member of the Juvenile Diabetes Research Foundation. Dr Alberti is a Board member of St Vincent's Institute and also a Director of the Western Bulldogs and Foundation Director of the Western Bulldogs Forever Foundation.

Mr Benni Aroni

Deputy Chair, SVI Foundation Board

Mr Aroni is a qualified legal practitioner having been the managing partner of his own legal firm between 1982 and 1998. He has been a developer of Eureka Tower from 1998 to date. He now chairs Stralliance Developments, a property development and construction group. He was Vice President of JDRF Victoria between 1993 and 1998 and National Vice President from 1995. Subsequently he has focused his charity work on the SVI Foundation. He is and has been a Board member of several companies, listed and unlisted.

Mrs Karen Plant Deputy Chair, SVI Foundation Board

Mrs Plant is a gualified interior decorator. Together with her husband. Barry they established Barry Plant Real Estate which now boasts over 60 offices throughout Melbourne and country Victoria. In conjunction with her business commitments, Karen has been heavily involved in charitable work for many years. Karen is currently a Council member of Camberwell Girls' Grammar School and is a member of the 'Invest in Carey' Foundation at Carey Grammar School. Karen is also a member of the Chancellor's Circle of Deakin University and a Board member of the REIV Charity Foundation.

Mr Robin Berry 3

CEO, SVI Foundation Board

Mr Berry has a background in the sports, health & leisure industry. He has extensive experience in corporate management, marketing of premium brands, sponsorship, manufacturing and the importing of sporting and leisure products. He has successfully launched businesses which design and market branded surf apparel, footwear, aqua and fitness products.

Mr Brian Cooney 5

From Jan 2007

Mr Cooney is one of Australia's leading individuals in the sports marketing industry. Specialising in sponsorship and event management, he has been responsible for some of the biggest commercial arrangements in Australian sport. In his senior management role with the world's largest sports marketing company, IMG, he has wide experience in dealing with figures from Government and corporate Australia.

Ms Danielle de Capele

Until Dec 2007

Ms de Capele lives in Monaco where she is an organiser of international events and is on the Board of various charitable organisations. She travels extensively within Europe and the USA and spends approximately three months of the year in Australia.

Ms Marcia Griffin

Ms Griffin was CEO of Pola Cosmetics and a former Victorian Telstra Business Woman of the Year. Current roles include Directorships of PMP Limited and National Pharmacies, as well as a position as a TEC Chair. Marcia is an author of a business biography. "High Heeled Success". She is a motivational speaker and marketing consultant.

Ms Connie McKeage

Ms McKeage is CEO of Pentafin Solutions, one of Australia's fastest growing software solutions companies. Prior to her role at Pentafin, Connie held key executive positions with organisations





Mrs Claire O'Callaghan 7

Chair, SVI Support Group

A St Vincent's trainee, Mrs O'Callaghan returned to part-time nursing once her five children were in full-time education. She has chaired a number of fundraising and educational organisations including the original Noah's Ark Toy Library for Handicapped Children and is currently Chair of the St Vincent's Institute Support Group.

Mr Martin Ralston

Mr Ralston graduated in 1968 with a Bachelor of Economics and spent most of his working life involved with information technology. He worked for BHP Computer Accounting Services then Accenture (formerly Andersen Consulting). Martin was a partner with Accenture from 1985 until 2001 when he retired. He is currently Treasurer of the Moonee Valley Racing Club, Non-Executive Chairman of Transol Corporation and Vice-President of Hawthorn Football Club.

Mr Jonathon Rowe 2

Mr Rowe is a founding member of The Loop Agency, a leading creative brand consultancy. Prior to this he was a Director of Clemenger BBDO, Managing Partner of Publicis Mojo, and is a specialist in communications strategy and effectiveness. He holds an economics degree, and has studied strategy planning and management in New York and London.

Mrs Christine Tarascio 6 Chair, Events Committee

Mrs Tarascio's family company is Salta Properties Ltd. She has been a very active fundraiser over a long period of time for various causes, including the Lady Mayoress' Charitable Fund, the Oueen Elizabeth Centre, PMB (raising funds for prostate cancer research), and Pampering Patients. She is currently assisting her family company with the redevelopment of the former Mercy Hospital.

Mr Sam Tarascio 4

Mr Tarascio gained experience with Coopers & Lybrand, then with Jones Lang Wootton before moving in 1999 to the family company Salta Properties, with responsibility for management of the property investment portfolio. Mr Tarascio



is now Managing Director of Salta Properties and sits on the Executive Management Committee of Westgate Logistics. More recently he has become a Director of Pentacle Property Funds Management Ltd.

Ms Brenda M Shanahan 9 BEc BComm

Professor Thomas WH Kay 8

BMedSc MBBS PhD Melb FRACP FRCPA

Research groups

Drug discovery
Obesity and type 2 diabetes
Heart disease
Type 1 diabetes
Autoimmune diseases
Arthritis and osteoporosis
Cancer
Infectious diseases

Structural biology

Proteins are one of the body's essential building blocks. In addition to contributing to the structure of the body, proteins also act as molecular engines, controlling all of the body's functions. Determining the structure of a protein can help us to understand its function. Crystallography allows us to 'see' the 3-D structure of proteins at the atomic level. The protein's 3-D structure can then be used to help design new drugs for the treatment of disease. The major areas of protein crystallography research in the Structural Biology Unit involve proteins implicated in cancer, brain disease, and bacterial and viral infection.

CLIC proteins – the two-faced protein that suffers from foot-in-mouth

The CLIC (Chloride Intracellular Channel) proteins are implicated in kidney function, cell division and bone resorption. The founding CLIC family member, p64, was characterised as an intracellular chloride channel. The ability of some CLIC proteins to form chlorideselective channels in vitro despite possessing no obvious transmembrane regions has made them fascinating proteins to study. CLIC2 inhibits cardiac ryanodine receptor calcium release channels suggesting CLIC2 may regulate calcium release from intracellular stores in heart and skeletal muscle.

We determined the 3-D structure of human CLIC2 in its water-soluble form by crystallography at 1.8 Å resolution from two different crystal forms. Our collaborators showed that CLIC2 forms pH-dependent chloride channels in vitro with higher channel activity at low pH and the channels are subject to redox regulation. In both crystal forms, we observed an extended loop region from the C-terminal domain, called the foot loop, inserting itself into an interdomain crevice of a neighbouring molecule. The equivalent region in the structurally related glutathione transferase superfamily corresponds to the active site. This so-called "foot-in-mouth" interaction suggests

that CLIC2 might recognise other proteins such as the ryanodine receptor through a similar interaction.

Our work on CLICs is in collaboration with Professor Philip Board, ANU and Professor Paul Curmi, UNSW.

Structure of a growth factor bound to its receptor provides the basis for the discovery of new asthma drugs

The granulocyte-macrophage colony stimulating factor (GM-CSF), interleukin-3 (IL-3) and IL-5 family of cytokines regulate survival, proliferation, differentiation and functional activation of hematopoietic cells. GM-CSF is used to expand hematopoietic cells after bone marrow transplantation, to activate mature cell function in infectious diseases, and as an adjuvant to bolster anti-tumour immunity. Conversely, GM-CSF, IL-3 and IL-5 have all been implicated in multiple pathologies resulting from excessive or aberrant expression of the cytokines or their receptors, in conditions such as arthritis, asthma and leukaemia.

GM-CSF receptors are heterodimers consisting of a ligand-specific alpha subunit and a beta subunit which is shared with the IL-3 and IL-5 receptors. How signalling is initiated remains an enigma. We determined the first crystal structure of the human GM-CSF/GM-CSF receptor ternary complex and its assembly into an unexpected dodecamer or higher order complex. Importantly, mutagenesis of the GM-CSF receptor at the dodecamer interface and functional studies performed by our collaborators revealed that dodecamer formation is required for receptor activation and signalling. This novel form of receptor assembly likely applies also to IL-3 and IL-5 receptors, providing a structural basis for understanding the activation of these receptors and for the development of novel therapeutics.

Our work on GM-CSF receptor is in collaboration with Professor Angel Lopez, Hanson Centre, Adelaide.

Michael Parker

Chris Anstey-Gilbert David Ascher **Brett Bennetts** Matthew Chung Gabriela Crespi Brett Cromer Susanne Feil Michael Gorman Nancy Hancock Guido Hansen Louis Italiano Geoffrey K-W Kong Jack King-Scott Sara Lawrence Luke Miles Craig Morton Hooi-Ling Ng Lorien Parker Galina Polekhina Kher Shing Tan Julian Tang Peter Walsh Jerome Wielens Di Wu

Photo Peter Walsh Kher Shing Tan



Obesity and type 2 diabetes Protein chemistry and metabolism

The major focus of the Protein Chemistry and Metabolism Unit is an enzyme known as AMP-activated protein kinase (AMPK). AMPK acts as the body's energy regulator. Recently, it has attracted global attention because of its potential role in mediating the health benefits of exercise. Weight loss and insulin-sensitising hormones stimulate AMPK activity in skeletal muscle to burn off fat. Some glucose-lowering drugs used for patients with type 2 diabetes also activate AMPK. AMPK regulates the burning and storage of fats and sugars, and affects the level of fats, sugars and cholesterol in the blood stream. Thus, it has the potential to offset the effects of obesity, heart disease, diabetes and other age-onset diseases. AMPK can also influence the growth of cancers through control of the energy supply. An enzyme with powerful and far reaching effects, AMPK could play a significant role in treating conditions that cost Australia's health system billions of dollars annually.

AMPK controls blood glucose and body weight

One of the deleterious consequences of obesity is the loss of the body's capacity to respond to the hormones that control glucose and fat metabolism. Obesity is often accompanied by the development of insulin resistance, which means that more insulin needs to be secreted by the pancreas to control blood glucose. This often leads to type 2 diabetes. AMPK is known to stimulate fat oxidation and control blood glucose by suppressing the production of glucose by the liver. In order to understand the role of AMPK in controlling the body's metabolism, and particularly insulin sensitivity, we have generated AMPK β 1 null mice and found that they have profound loss of AMPK activity in the liver that is not compensated for by the AMPK β 2 isoform. We anticipated that these animals would therefore develop insulin resistance on a high-fat diet. Remarkably, we found that these animals were resistant to high-fat diets, gained less weight and were more insulin sensitive than their wild-type counterparts. This implies that the liver is the not the only tissue influencing metabolism in these mice. Our preliminary results indicate that the loss of AMPK activity in the hypothalamus is having an overriding effect, protecting the animals from the deleterious effects of high-fat diets. Understanding which signalling pathways are being altered in the brain of these mice may create new opportunities for obesity therapy.

New insights into the structure of AMPK

AMPK is an $\alpha\beta\gamma$ heterotrimer. AMP binding to the γ subunit controls α catalytic subunit activity. Previously we found that the β subunit acts as a scaffold to bind the α and γ subunits. Three overseas laboratories have now solved the crystal structure of the full-length γ subunit and C-terminal fragments of the β and γ subunits. Using scanning mutagenesis we found that two β 1 residues were critical for the $\beta\gamma$ subunit interaction. This new structural information has allowed us to observe the interactions of these key residues with the γ subunit. The crystal structures have also provided important insights into how AMP is bound by the γ site. The γ subunit contains four repeat sequences called CBS motifs, each of which contains a nucleotide-binding site. Further structural information is required before we can understand more precisely how the intact enzyme is regulated. This information may aid in developing additional activating and inhibiting drugs for AMPK, which may be more effective than the "statins" currently used to lower cholesterol. Such drugs would have the potential not only to inhibit the production of cholesterol, but also to switch off the production of fatty acids, triglycerides and fat cells, therefore controlling fat metabolism at multiple strategic points.

Bruce Kemp

Sebastian Beck-Jorgensen Andrew Carey Zhiping Chen Nicholas Dzamko Kylie Fitzpatrick Sandra Galic Kimberley Hewitt Jane Honevman Tristan Iseli Frosa Katsis Francine Ke Rebecca Keall Lotte Leick Julian Maingard Belinda Michell Jonathon Oakhill Aaron Paul Ruby Platt John Scott Rohan Steel Gregory Steinberg Shanna Tam Sarah Turpin Bryce van Denderen Matthew Watt Sheena Wee

Photo Bruce Kemp Belinda Michell



Heart disease Molecular cardiology

Cardiovascular disease is a term used to describe a range of diseases affecting the heart and blood vessels, including heart attacks, strokes and heart failure. These are the major cause of death and sickness in our community. Our Molecular Cardiology Unit is investigating new ways to predict who is likely to experience cardiovascular disease so that we can better prevent and treat it. We are also investigating the changes in heart muscle that contribute to the development of heart failure. The role of different hormones in cardiovascular disease, and the effects of drug treatments on these hormones is another area of interest for our group.

New ways to stop heart disease and stroke

We previously showed that the level of a chemical in blood called NTproBNP is elevated in people who are at increased risk of future heart failure, heart attack or stroke. These studies were performed in collaboration with researchers at the George Institute for International Health in Sydney. More recently we showed that treatments that prevent heart failure, heart attack or stroke also decrease the level of NT-proBNP in blood. These results suggest that measurement of NT-proBNP in blood will not only help identify people who are at increased risk of heart failure, heart attack or stroke, but also help the optimisation of therapy to prevent these conditions. In collaboration with Dr David Prior (St Vincent's Hospital) and Professor Henry Krum (Monash University), we are investigating how best to use NT-proBNP measurements to improve patient outcomes.

What causes heart disease?

Heart failure is frequently due to changes in the muscle of the heart that prevent the heart from pumping efficiently. To investigate the changes in heart muscle causing heart failure, we established a tissue bank of heart muscle biopsies from patients undergoing open heart surgery. These studies are performed in collaboration with cardiothoracic surgeons Mr Michael Yii and Mr James Kenny, cardiologist Dr David Prior (St Vincent's Hospital), and Dr Jane Black (Monash University).

Hormones in heart disease

Long-term interests of our laboratory are the hormones angiotensin and bradykinin. Angiotensin plays important roles in the control of blood pressure and high levels can cause high blood pressure and heart disease. By contrast, bradykinin lowers blood pressure by relaxing blood vessels, and helps the heart muscle perform its work. Some of the most valuable drugs we use to treat cardiovascular diseases act by reducing the effects of angiotensin and by increasing the levels of bradykinin. These drugs include angiotensin converting enzyme (ACE) inhibitors, angiotensin receptor blockers, and beta-blockers. ACE inhibitors act by blocking ACE, an enzyme that produces angiotensin and destroys bradykinin.

In collaboration with Professor Ken Bernstein and his colleagues at Emory University, we have been using different mouse genetic models to study how and where in the body angiotensin and bradykinin are produced and destroyed. The ACE enzyme is actually a double enzyme with two active sites that each produce angiotensin and destroy bradykinin. Using genetic techniques, we found that while one active site is responsible for most angiotensin production, both active sites contribute equally to bradykinin destruction. This new information will help in the design of drugs that target the individual active sites of the ACE enzyme and thereby more precisely control angiotensin and bradykinin levels.

In one genetic model that we use, the ACE enzyme is produced only by heart muscle cells. This has allowed us to study the production of angiotensin and destruction of bradykinin in the heart muscle tissue, and to examine the importance of this site of production relative to the production of angiotensin and destruction of bradykinin in blood vessels and in blood. Knowing where in a tissue angiotensin and bradykinin are made and destroyed will help us understand how these peptides influence heart disease. Duncan Campbell Theodora Alexiou

Photo Duncan Campbell 1 David Prior 2



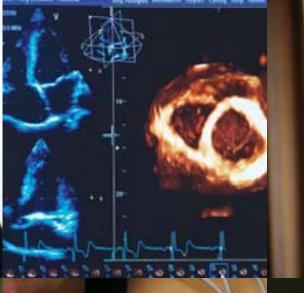




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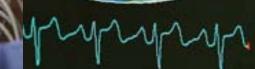


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Type 1 diabetes

Immunology and diabetes

People with type 1 diabetes lack insulin, the hormone that regulates the body's use of glucose. Insulin is produced by beta cells, which are contained in the pancreas within small clumps of cells called islets. In type 1 diabetes, beta cells are mistakenly attacked and destroyed by the immune system.

In the Immunology and Diabetes Unit, we are interested in understanding how the immune system causes beta cell damage. Evidence in mice suggests that "killer" cells of the immune system, called cytotoxic T cells (CTL), play a significant role in killing beta cells. We are investigating the mechanisms by which CTL destroy beta cells and ways to protect beta cells from the immune system as a potential therapy for type 1 diabetes. We are also studying proteins within the beta cell that either promote or reduce cell death. Our work is being applied to humans through transplantation of human islets to reverse diabetes.

How type 1 diabetes begins

Blocking T cell responses to proinsulin is a promising, but so far ineffective, approach to preventing type 1 diabetes. T cells that recognise proinsulin and an islet protein called IGRP induce diabetes in NOD mice, and an immune response against proinsulin is required before IGRPspecific T cells can expand. NOD8.3 mice are a genetically modified strain in which all the CTL recognise IGRP. These mice develop diabetes much faster than normal NOD mice. We have shown that diabetes is dramatically reduced in NOD8.3 mice when they have no proinsulin-specific T cells. This indicates that helper T cells recognising proinsulin are required even in NOD8.3 mice where most of the CTL already recognise IGRP. This work was done in collaboration with Professor Len Harrison and Dr Andrew Lew at the WEHI, and Dr Peter Colman at the Royal Melbourne Hospital.

How does the immune system kill human islet cells?

CTL are believed to be essential for beta cell destruction and rejection of islet grafts. We aimed to identify the mechanisms that CTL use to kill human islet cells, in order to prevent islet cell death. As human T cells that recognise islets are not readily available, we developed a novel method for investigating the interaction between human islets and CTL. CTL that recognise either influenza or Epstein-Barr viruses were able to kill islet cells that had been exposed to peptides from the relevant virus. Killing was increased when the amount of peptide on the surface of the islet cells was increased by pre-treatment with interferon gamma. When we inhibited perforin, one of the major killing pathways used by CTL, islet cell death was abolished. Blocking Fas ligand, another important CTL-killing mechanism, did not alter islet killing. Our data suggest that perforin is an important mechanism by which CTL kill human islets. This novel system can be used to test inhibitors of perforin that have been developed by our collaborator Professor Joe Trapani at the Peter MacCallum Cancer Centre. This work was in collaboration with Dr Stuart Mannering at the WEHI.

Potential therapies for treating diabetes

Development of diabetes and rejection of transplanted islets is due to death of the beta cells by apoptosis. Apoptosis is controlled by the Bcl-2 family of proteins. We found that deletion of certain pro-apoptotic members of this family, Bid, Bax and Bak, protected islets from death stimuli. Overexpression of Bcl-2, which promotes survival, also protected islets from death stimuli. This suggests that altering the activity of these molecules may be useful for protecting islets from attack by immune cells either in diabetes or after transplantation. This work was in collaboration with Professor Andreas Strasser, Dr David Huang and Dr Thomas Kaufmann at the WEHI.

Thomas Kay

Helen Thomas Janette Allison **Eveline Angstetra** Rochelle Ayala-Perez Peter Campbell Emma Carrington Caroline Dobrzelak Sarah Emmett Eugene Estella Stacey Fynch Kate Graham Junquan Huang Kate Hurley Gaurang Jhala Balasubramanian Krishnamurthy Catherine Li Thomas Loudovaris Lina Mariana Mark McKenzie Melanie Rowe Natalie Sanders Nirupa Sachithanandan Anne Thorburn Inggrid Wardani

Photo Kate Graham Thomas Loudovaris



Autoimmune diseases Signal transduction

Our immune system is a complex network of diverse cell types that need to be able to signal the presence of a pathogen and eliminate the intruder. The development and the function of the immune system are both tightly controlled processes that incorporate a variety of checks and balances. These controls make the immune system sufficiently robust to combat infection, but not so powerful that the immune cells attack healthy tissue. When this balance is perturbed, chronic inflammation and autoimmune disease may result. In the Signal Transduction Unit, we are interested in understanding how these control mechanisms work. Using a variety of approaches, we aim to identify molecules that are critical for maintaining a balanced immune system, and which may be suitable candidates for the development of drugs to combat autoimmune disease.

SOCS proteins: 'stopping' the immune system

Cytokines are important messengers that control the survival, growth, differentiation and function of cells of the immune system. Cytokines are produced in response to changes in the environment (such as infection). Responses to cytokines are typically transient, and unregulated responses are generally harmful.

We have identified a family of proteins known as SOCS (suppressor of cytokine signalling). These proteins function as 'stop signals' to ensure that cytokine signals are turned off when they are no longer needed. We are focussing on two members of the SOCS family, SOCS1 and SOCS3. Previous work has established that these molecules play important roles in regulating T lymphocyte function, but little is known about their roles during T cell development in the thymus. Expression of SOCS1 and SOCS3 overlaps during early thymopoiesis, suggesting possible redundancy. In collaboration with Dr David Izon (SVI), we have cocultured bone marrow cells lacking SOCS1 and SOCS3 in vitro with OP9 DL1 stromal cells to promote the development of thymocytes. We showed that thymopoiesis was blocked at the DN3:DN4 transition in cells lacking SOCS1. Cells lacking both SOCS1 and SOCS3 were more severely affected, and displayed an earlier block in T cell differentiation at DN2, when expression of SOCS1 and SOCS3 coincides. This indicates that, in addition to their specific roles, SOCS1 and SOCS3 share overlapping roles during thymopoiesis, and that both molecules are required for thymopoiesis to occur normally.

Identification of molecules that regulate the immune system

We are interested in identifying genes that regulate lymphocyte development and activity. A mutagen, ENU, is used to induce point mutations throughout the mouse genome, and samples from mutant mice are screened for aberrations in lymphocyte development. Affected members of one of these pedigrees, MLD4, have reduced numbers of mature B lymphocytes. We have identified a missense mutation in these mice in the gene encoding Lyn kinase, a Src family kinase that functions as both a positive and negative regulator of BCR signalling. This mutation results in a non-conservative amino acid change near the autophosphorylation site of Lyn. We have established that Lyn kinase expressed in MLD4 cells completely lacks kinase activity. Despite similarities between the phenotypes of MLD4 and lyn^{-/-} mice, the spectrum of defects in MLD4 mice is less severe than in lyn-/- mice, and in particular, there is no evidence of autoimmune disease or splenomegaly. This suggests that while negative regulation of BCR signalling (a unique function of Lyn) is likely to be ablated in both mouse models, positive signalling through the BCR may be reduced in MLD4 mice relative to lyn-/- mice, most likely through reduced recruitment of other Src family kinases in the presence of non-functional Lyn. The MLD4 mouse, therefore, is a useful model for establishing the precise spectrum of roles of Lyn kinase in B cells and other haematopoietic lineages.

Robyn Starr

Hayley Croom Paul Egan Martina Fuchsberger Ankita Goradia Lei Shong Lau Morgan Wallace Anne Verhagen

Photo Robyn Starr 1 Anne Verhagen 2



Arthritis, osteoporosis and cancer

Bone, joint & cancer

A healthy skeleton is important for normal bodily function; it is needed for all physical activity, to protect internal organs, and as a source of nutrients for the blood and immune system. Bone diseases such as osteoporosis, arthritis and cancer of bone all result in a reduction in bone mass. The Bone, Joint and Cancer Unit is seeking new therapeutic targets to treat these common debilitating diseases by studying the cells that build bone (osteoblasts) and the cells that destroy bone (osteoclasts) and the way that these cells interact with each other and with changes to their environment. Ultimately, we aim to identify new factors or ways to promote bone formation.

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Coupling factor: communication between the cells of bone

The internal structure of our skeleton is constantly changing; small areas of bone are continuously being destroyed by osteoclasts and new bone is deposited in the same place by a team of osteoblasts. This constant turnover of bone means that the skeleton is able to respond quickly to dietary stress or changes in physical activity. This is a tightly regulated process. Yet a mystery remains: how do the osteoblasts know how much bone matrix is needed and how do they know where to deposit it? It appears that osteoclasts release a factor, commonly referred to as "coupling factor", that signals to osteoblasts, and much of the Unit's research effort is directed at defining this activity. Some of our recent work has shown that coupling factor activity might involve IL-6, and also that inhibition of osteoclast function can blunt the anabolic response to parathyroid hormone (PTH).

The only known therapy that can reliably increase the amount of bone is daily injection of PTH, which is an expensive and troublesome treatment. We are working on new approaches to treatments that build bone. By investigating the pathways of PTH action, we have identified new PTH targets and are investigating their potential as treatment of osteoporosis.

Stopping the Spread of Cancer

One of the focus areas of the Bone, Joint and Cancer Unit is the spread of primary cancers to other sites in the body that results in secondary cancer. This process, known as metastasis, is a serious and unfortunately common complication of many cancers including breast cancer, which often spreads to bone. We have shown that a protein called osteoprotegerin inhibits the process of bone breakdown. Osteoprotegerin is commonly expressed by the boneforming cells, and we provided some of the first evidence that it is also produced by a number of cancers. We explored the consequences of regulating osteoprotegerin levels in breast cancers and determined that this factor can regulate tumour growth both in bone and in the breast. This identified a new role for this protein and indicated that high levels of osteoprotegerin in a tumour might be a poor prognostic indicator for patients. We are now determining how this protein affects tumour growth and whether we can counteract its activity.

Matthew Gillespie

Jack Martin Natalie Sims Kong Wah Ng Elizabeth Allan Steve Bouralexis Marco Cecchini Ally Chau Vanessa Cheung Melissa Ciccomancini Mirijana Cipetic Blessing Crimeen-Irwin Audrey Day Kylie Fitzpatrick Jonathan Gooi Karl Häusler Pat Ho Nicole Horwood Vicky Kartsogiannis Virginia Leopold Lisa McCarthy Narelle McGregor Frances Milat Rachel Mudge Döne Onan-Asik Sueli Pompolo Ingrid Poulton Julie Quach Julian Quinn Hasnawati Saleh Keith Thompson Emma Walker

Photo Natalie Sims Jonathan Gooi



Cancer Cell cycle and cancer

Humans could not survive or develop if our cells could not proliferate and divide. The defined sequence by which cells duplicate themselves is called the cell cycle. When it is perturbed, cells lose their ability to control division, and become cancerous. Defining how increased cell division occurs is essential for understanding how cancer develops. Cell division is controlled in two ways: protein activation and degradation. Enzymes called cyclin-dependent kinases add phosphate groups to proteins, causing them to become active, while the addition of a protein called ubiquitin marks other proteins for destruction. In the Cell Cycle and Cancer Unit, we use a range of approaches to understand how cell division is controlled by the activation and degradation of proteins in the cell cycle, and how these processes go wrong in cancerous cells. Understanding these processes will eventually allow the development of drugs to inhibit cancer cell division.

Identifying targets of cyclin-dependent protein kinases (CDKs)

CDKs promote cell division by targeting critical cell cycle regulatory molecules. We wish to identify molecules targeted by CDKs and define how their phosphorylation regulates cell division, as increased CDK activity can contribute to human cancer.

We have isolated a gene termed SAP180. This gene is related to RBP1, which binds to the tumour suppressor retinoblastoma protein (pRb) and recruits histone deacetylases (HDACs) to inhibit cell cycle progression. Our studies show that both RBP1 and *SAP180* are phosphorylated by CDKs, leading to their dissociation from pRb. These studies suggest that CDK phosphorylation of RBP1 and SAP180 leads to HDAC dissociation from pRb to promote cell cycle progression. We are currently investigating whether this is the case.

The chromatin-remodelling SWI/SNF complexes also control cell proliferation by regulating transcription. We have undertaken studies in *Drosophila* with Dr Helena Richardson, Peter MacCallum Cancer Centre to determine whether CDKs regulate SWI/SNF and cell cycle progression. Importantly, flies expressing SWI2, which cannot be phosphorylated on CDK sites, had ablated wing tissue, while a mutant phosphomimic form resulted in wing expansion. In addition, expression of CDK mutant SWI2 in the eye resulted in disorganised eyes, consistent with additional cell proliferation. These exciting new data provide the first evidence that the CDK phosphorylation sites on SWI2 have important consequences on cell cycle progression in vivo. Further studies will involve genetic, cell biological and in vitro studies to understand this regulation at a mechanistic level.

Regulation of the cell cycle by protein degradation

Degradation of key cell cycle regulators by the ubiquitin/ proteasome system is also critical for cell division and human cancer. The ubiquitylation pathway catalyses the binding of the ubiquitin polypeptide to substrate proteins, tagging them for proteolysis. Understanding how ubiquitinconjugating enzymes (UBCs) control proteolysis and cell division is a major research focus for our group. We have unveiled a conserved site in UBCs, which is critical for their activity and cell cycle functions. Our data now suggest the equivalent site is important in ubiquitin ligases. Overexpression of UBCs and E3s, which control cell cycle progression, is important in the development of human cancer. The conserved site we have identified may represent a novel target for the development of new cancer therapeutics.

Boris Sarcevic

Martin Sadowski Alisa Sedgifar Randy Suryadinata

Photo Boris Sarcevic 1 Randy Suryadinata 2



Molecular genetics

DNA damage accumulates spontaneously and environmentally throughout life, and is one of the key factors determining cancer occurrence and malignancy. Ironically, most drugs used to kill cancerous cells act by damaging DNA. It is now clear that DNA structure can be damaged in different ways, and that the cell reacts by using a specific type of machinery to repair it. If the wrong machinery is used, this results in further DNA damage. The Molecular Genetics Unit works to understand how cells prevent cancer by dealing with DNA damage.

We have identified a new family of DNA damage response proteins that assembles appropriate repair machinery near damaged chromosomes. We have identified the type of DNA damage that these proteins target, and how they carry out the repair. In addition, we have shown that these proteins are responsible for repairing damage caused by certain chemotherapeutic drugs; further research may reveal ways of rendering these drugs more effective.

The cellular zen – crosstalk between cell integrity and genome stability

Preventing internal threats by maintaining a stable genome protected from mutations and preventing external threats by maintaining a stable cell wall are critical processes for cell viability and cell proliferation. Both processes are regulated by separate checkpoints, but recent evidence indicates that there is considerable crosstalk between these two processes. We previously found that the MDT1 protein plays important roles in maintaining genome stability by facilitating the repair of blocked DNA double-strand breaks and by promoting the efficiency of alternative telomere length maintenance pathways. We have now found that the MDT1 gene has strong genetic interactions with key genes of the cell integrity stress response MAP kinase pathway, BCK1 and SLT2, and also that MDT1 mutations lead to increased sensitivity to cell wall toxins. Interestingly, absence of the so-called RRM domain of MDT1 only leads to increased DNA damage sensitivity but not to increased cell wall toxin sensitivity. The results indicate that MDT1 joins a growing list of proteins with dual genome and cell integrity maintenance functions, but it may exert these functions at least in part by different mechanisms.

Location matters – importance of modular domain topology for protein functions

Signalling proteins often contain multiple modular protein-protein interaction domains of the same type. The Saccharomyces cerevisiae checkpoint kinase Rad53 contains two phospho-threonine-binding forkhead-associated (FHA) domains. To investigate if the precise position of these domains relative to each other is important, we created three rad53 alleles where the FHA1 and FHA2 were individually or simultaneously transposed to the opposite location. All three mutants were approximately 100-fold hypersensitive to a DNA damaging agent, survival against which requires intact Rad53 FHA domain functions, but they were not hypersensitive to DNA damage that is dealt with in an FHA domain-independent manner. FHA domain-transposed Rad53 could still be recruited for activation by upstream ATM/ATR-like kinases, but then failed to auto-phosphorylate and activate FHA-dependent downstream functions. The results indicate that precise FHA positions are important for their roles in Rad53, and suggest that functions of repetitive domains in general may be topologically constrained by their precise location within multi-modular signalling proteins.

Jörg Heierhorst

Joel Fletcher Andrew Hammet Xianning Lai Tricia Liang Lo Nora Tenis Ana Traven

Photo Jörg Heierhorst Tricia Liang Lo



Cytoskeleton and cancer

The cytoskeleton acts as the 'bones' of the cell, providing a scaffold for the cell's inner workings. The most abundant proteins in the cytoskeleton are actin and tubulin. Both actin and tubulin filaments provide mechanical support, enable cell movement and participate in cell junctions and cellular contractions. Work in the Cytoskeleton and Cancer Unit is focussed on a protein called LIM kinase 1 (LIMK1), which is involved in many cellular functions dependent on actin dynamics, such as cell differentiation, axon pathfinding, cell survival, cell division and cell motility. Most importantly, the group has shown that LIMK1 is involved in cancer spread, making LIMK1 an attractive target for drug development to inhibit this process.

Can stopping LIMK1 stop the spread of cancer?

It is now well established that LIMK1 is an important regulator of cell motility and invasiveness and is therefore a candidate for the development of drugs to inhibit its activity and eventually the spread of cancer cells from the original tumour to other parts of the body.

We have developed a highthroughput assay to screen a compound library for molecules that can inhibit LIMK1 activity in vitro. A computer program was used to screen a compound library for molecules that bind to the ATPbinding site of the kinase domain of LIMK1. The best 1000 compounds were assayed for their ability to inhibit LIMK1 activity resulting in three candidate molecules.

We are in the process of purifying the kinase domain of LIMK1 expressed in Baculovirus in order to crystallise it and solve its structure. Solving the structure of the LIMK1 kinase domain will enhance the search for LIMK1 inhibitors. This work is being done in collaboration with Dr Ian Street, Walter and Eliza Hall Institute and Professor Michael Parker of SVI's Structural Biology Unit.

How LIMK1 unravels the cell

We have recently demonstrated that LIMK1 activity is required for microtubule disassembly in human vein endothelial cells, although the mechanism remains unclear. A search for LIMK1-interacting proteins identified p25a, a phosphoprotein that promotes tubulin polymerisation. We found that p25 is phosphorylated by LIMK1 *in vitro* and *in vivo*. As LIMK1 is expressed in all tissues, we investigated the possibility that p25 is expressed in tissues other than brain. Immunoblotting analysis revealed that p25 is not a brainspecific protein; it was expressed in all mouse tissues and cell lines examined, albeit at lower levels than in the brain. Immunofluorescence analysis demonstrated that endogenous p25 is co-localised with microtubules in a variety of cell types and is also found in the nucleus. Down-regulation of p25 using p25-siRNA decreased microtubule levels while its overexpression in stable NIH-3T3 cell lines increased cell size and levels of stable microtubules.

Our findings show a surprising connection between the tubulin and actin cytoskeleton mediated by LIMK1. Furthermore, we have shown that LIMK1 phosphorylation of p25 blocks p25 activity, thus promoting microtubule disassembly.

The other LIMK family member

LIMK2 shares 50% overall homology with LIMK1. LIMK2, like LIMK1, phosphorylates cofilin, resulting in increased actin filaments. However, the cellular localisation of LIMK2 is distinct from that of LIMK1, suggesting that LIMK2 may have substrates other than cofilin. It is also possible that LIMK2 activity is regulated by other upstream molecules and that it has additional cellular functions. Indeed, preliminary experiments suggest that LIMK2 phosphorylates twinfilin, another actin depolymerising factor. As LIMK1 is involved in cancer metastasis and is a target for the development of anti-cancer metastasis drugs, it is of utmost importance to study the role of LIMK2 in cancer metastasis. Studies are underway to reveal the role of LIMK2 in general and in cancer metastasis in particular.

Ora Bernard

Karla Acevedo Stephanie Lebret Rong Li Kevin Mittelstaedt Priscilla Soo

Photo Ora Bernard Kevin Mittelstaedt



Pharmacogenomics

Pharmacogenomics is the study of how an individual's genetic makeup affects the course of disease and the responses to medication. Work at SVI combines traditional sciences such as biochemistry with recent advances in our knowledge of genetics and drug discovery. This allows us to identify genes that are involved in disease and to help design drugs to stop these genes from working. We have recently identified genes involved in the spread of cancer and those associated with the onset of diabetic kidney damage. The Pharmacogenomics Unit is working with the SVI's Structural Biology Unit to design inhibitors to one of these key genes.

Identifying metastasis genes

Metastasis is the primary cause of mortality associated with cancer, yet the molecular mechanisms leading to metastatic spread are poorly understood. Our Pharmacogenomics Unit has studied a number of cell culture and animal-based metastasis models using a range of genomic profiling technologies in order to identify 'culprit genes' that contribute to metastasis. One of the processes we have been studying is known as epithelial-to-mesenchymal transition (EMT). In collaboration with Assoc. Professor Erik Thompson's VBCRC laboratory at SVI, we have performed microarray gene expression profiling of human in vitro EMT models. The established 'gene-fingerprint' of EMT is being refined for potential application in clinical diagnosis.

New drug targets in diabetic nephropathy

Diabetes often leads to the development of a form of kidney damage known as diabetic nephropathy. Using cell culture models of this disease, we have identified a gene that plays a critical role in the generation and subsequent pathological consequences of oxidative stress, a condition that characterises kidney damage. Given that pharmacological modulation of proteins involved in the generation of oxidative stress may be a suitable therapeutic strategy for diabetic nephropathy, we are collaborating with the SVI's Structural Biology Laboratory to elucidate the crystal structure of this protein and to design specific inhibitors.

New drugs that inhibit breast-to-bone metastasis

Bone is a particularly frequent site of metastasis for patients with breast and prostate cancer and myeloma. Approximately 85% of patients dying from breast cancer have demonstrable metastasis to bone. We have been using genomic profiling technologies for several years to study mouse models of breast cancer metastasis to bone. To complement this work, we have also sought to identify drugs that block this process. Thus far, we have identified two promising molecules that are capable of inhibiting breastto-bone metastasis in our mouse models. One of the drugs is orally active and used in predominantly Asian countries for the systemic treatment of skin disorders. While its precise mechanism of action is not known, it does have a wellestablished safety profile and therefore could be rapidly translated into clinical use.

Mark Waltham

Amanda Burnside Andrea Connor Sarah Vickery Jia Ni Zhu

Photo Mark Waltham 1 Walter Phister 2



VBCRC invasion and metastasis

The VBCRC Invasion and Metastasis Unit is part of the Victorian Breast Cancer Research Consortium, a series of Melbourne-based breast cancer-focussed groups working as an "Institute Without Walls". The VBCRC Invasion and Metastasis Unit studies matrix metalloproteinases (MMPs) in breast cancer. MMPs are enzymes that cut through tissue and are important at the primary tumour site and in metastasis. We are especially interested in the spread of cancer to bone. We also study Epithelial-Mesenchymal Transition, a phenotypic change in cancer cells that empowers their migration, invasion and survival. Increased understanding of these processes will help to combat metastasis.

Inhibiting breast cancer

An ongoing project in our Unit is the definition and inhibition of individual MMPs responsible for breast cancer growth and spread. In collaboration with the Pharmacogenetics Unit, we found that MMP-13 (collagenase-3) was abundant in breast cancer lesions, and showed significant inhibition of growth with a new MMP-13-specific inhibitor from Pfizer Global. This represents the first use of a highly specific MMP inhibitor that appears to lack the musculoskeletal syndrome side effects that have plagued previous trials. Other studies using mice which have been engineered to lack MMP-13 (kindly provided by Professor Zena Werb, University of California, San Francisco) are ongoing, and we are developing a new syngeneic mouse model of mammary cancer growth and bone metastasis in collaboration with Dr Alex Swarbrick, Garvan Institute.

How cancer spreads

We have characterised a human breast cancer model of epithelialmesenchymal transition (EMT). PMC42 cells undergo EMT in response to Epidermal Growth Factor, an important etiologic factor in breast cancer. Gene array studies performed by SVI's Pharmacogenomics Unit have identified candidate effector molecules, which we are examining in clinical breast cancer specimens. Multiplex tandem PCR (MT-PCR), carried out in collaboration with Professor Keith Stanley, University of South Wales & Corbett Research, allows us to measure RNA levels of various EMT-related genes in a single archival section. These wet-lab studies complement ongoing bioinformatic analyses that have provided evidence of EMT-associated gene expression in putative human breast cancer stem cells isolated from clinical specimens. Bioinformatic analysis is also identifying new potential EMT targets for further analysis in the PMC42 system.

Making cancer treatment more effective

We have targeted Integrin-Linked Kinase (ILK), an important survival signal activated by engagement of cells with their surroundings through integrin receptors. We chose ILK as a target molecule for RNA-directed therapies, including antisense oligonucleotides and short inhibitory RNA. In anchorage-independent cultures, where cancer cells have a survival advantage over normal cells, we found that targeting ILK potentiated the cell killing of conventional chemotherapies. ILK targeting in mice inhibited tumour growth and delayed the onset and severity of bone metastasis in the MDA-MB-231 model. Ultimately, ILK down-regulation could provide an adjunct for breast cancer chemotherapy.

Erik Thompson

Tony Blick Andrea Connor Angels Fabre Manisha Shah Annabel Southey Razan Wafai Edwin Widodo

Photo Erik Thompson Manisha Shah



Haematology and leukaemia

Leukaemia is a cancer of the blood cells. The different types of blood cells - red blood cells, white blood cells and platelets - are all derived from a primitive cell, called a stem cell. There is a complex series of developmental steps that must occur in order for a stem cell to differentiate into the different blood cells. If this process goes wrong, leukaemia can develop. The Haematology and Leukaemia Unit focusses on understanding how blood cells mature and how leukaemia disrupts normal blood cell maturation. The group studies these processes by creating mouse models of leukaemia which mimic human disease.

Investigating Blood Cell Development

The main research theme centres around T cell development and how it can help identify the causes of T cell leukaemia. We are attempting to identify new T cell oncogenes through the use of a retroviral cDNA library screening method in primary mouse cells. In order to create and analyse leukaemic mouse models, we use multiparameter flow cytometry and cell sorting.

Current treatments for T cell leukaemia include aggressive intensive chemotherapy and bone marrow transplantation. More intense chemotherapy is not used because of deleterious side effects. Generally, the overall cure rate from these treatments is approximately 75%. The causative genes in this disease are varied. SCL. LMO1/2. Notch1 and Hox11 overexpression have been described in over 50% of cases. However, the majority of the remaining T cell oncogenes are unknown. Consequently, there is a real need to treat the remaining cases, which fatally relapse, with a more targeted approach. We are utilising retroviral cDNA library

screening at a key proliferative T cell development checkpoint to uncover novel T cell oncogenes. Specifically, genes which promote the double negative to double positive transition in Rag-/- precursors should cause T cell leukaemia in mice when overexpressed. Therefore, the newly discovered T cell oncogenes will form the molecular foundation for the development of more rational T cell leukaemia treatment regimens. Eventually, this approach may even reduce the need for current aggressive chemotherapy in all T cell leukaemias.

Additionally, we are creating leukaemic mouse models of other blood cell lineages using retroviral overexpression. Specifically, we have created a mouse model of myeloid leukaemia by overexpressing Mixl1 in haemopoietic precursors in mice. One hundred percent of all mice receiving *Mixl1*-expressing bone marrow develop a fatal myeloid leukaemia with a mean latency of 50 days. Similar to the haemopoietic stem cell from which all blood cells derive, the existence of a leukaemic stem cell (LSC) has been proposed. It is hypothesised that the LSC is responsible for driving the leukaemic process and that identifying and eliminating this cell with specifically targeted drugs should improve patient treatment. Consequently, we are actively identifying the LSC in Mixl1-induced leukaemia.

David Izon Monique Smeets

Photo David Izon Monique Smeets



Infectious diseases

National serology reference laboratory

The National Serology Reference Laboratory, Australia (NRL™) is committed to helping curb the spread of blood-borne and other infections by assuring the quality and confidence in laboratory results in Australia and internationally. Our work offers world's best practice in quality assurance of Human Immunodeficiency Virus (HIV) and Hepatitis tests in Australia and has helped us define and correct a number of problems with testing protocols and test performances. The NRL also supplies quality assurance programs internationally to approximately 120 laboratories. NRL research is focussed on improving HIV and Hepatitis C Virus diagnostic testing and developing better markers for clinical prognosis.

The body's defence against hepatitis C virus

Hepatitis C virus is estimated to infect 170 million people globally and progress to a chronic infection in 70-80% of infected individuals. The role of the humoral immune response in controlling and eliminating the virus during HCV infection is still not fully understood. It is clear that IgM responses cannot be used as a marker of recent infection because they are also detected in chronically infected individuals. Consequently, there is a need for an assay that can provide reliable epidemiological figures on the incidence of HCV infection. In addition, a prognostic assay that could predict the outcome of infection, i.e. resolution or progression to chronic infection, would be valuable for clinicians. We have commenced characterising HCV immune responses to specific HCV viral proteins. From our studies thus far, we have found the antibody reactivity during acute infection was predominantly directed towards the core and the NS3 proteins. The response began as a peak of IgM which gradually switched to an IgG1 response. An IgG4 response to the core protein was observed in 60% of chronically infected individuals and was absent in acute infection. Thus, our preliminary findings expand on what is currently known about the immune response to early HCV infection and may contribute towards identifying a marker of recent infection.

New perspectives on antibodies to fight HIV-1

Despite intensive efforts worldwide to identify antibodies that can effectively block infection of a broad spectrum of HIV-1 isolates, there are only a handful of antibodies identified thus far. This study has identified individuals that have potent broadly reactive anti-HIV-1 neutralising antibodies. From our preliminary data, we have identified long-term non-progressors and long term survivors with potent neutralising antibodies. These were most potent for individuals that have a genetic defect in the chemokine receptor CCR5, CCR5∆32 heterozygote members, and also in some individuals infected with an HIV-1 strain attenuated in the nef gene. We propose to further characterise both antibody isotypes predominantly involved in neutralisation and regions in the envelope glycoproteins gp120 and/or gp41. The identification and characterisation of human monoclonal antibodies capable of broad, potent neutralisation of HIV-1 and their epitope recognition will provide essential input into the design and presentation of HIV antigens for the generation of a successful HIV vaccine capable of efficiently blocking infection. These antibodies may also have therapeutic and prophylactic applications.

Elizabeth Dax

Alicia Arnott Thein Thein Aye Susan Best Penny Buxton Denison Chang Roderick Chappel Stirling Dick Wayne Dimech Joelle Dodin Rosanna Fahmy Barbara Francis Rosina Gribben Helen Hasler Darren Jardine Marina Karakaltsas Sally Land Kate Learmonth Tamara McDonald Dale McPhee Louie Opasinov Lena Panagiotopoulos Thu-Anh Pham Scott Read Kim Richards Kathy Smeh John Tomasov Frank Torzillo Linda Tracey Kim Wilson Sandy Walker Trinh Vo

Photo Penny Buxton 1 Alicia Arnott 2



Fellowships, prizes and grants

Structural Biology

- Fellowships and Prizes - Michael Parker became an Australian Research Council
- Federation Fellow and an NHMRC Honorary Fellow - Louis Italiano was awarded
- a SVI Foundation Award
- Galina Polekhina was awarded a Career Development Award, NHMRC

Grants

- MW Parker, SY Chai. Structure/ function studies of insulinregulated membrane aminopeptidase, NHMRC Project Grant
- D Bowtell, MW Parker, C House, P Workman, W Aherne. Inhibitors of Siah ubiquitin ligase, NHMRC Project Grant
- M Waters, MW Parker. The mechanism of growth hormone receptor activation, NHMRC Project Grant

Protein Chemistry and Metabolism

Fellowships and Prizes

- Sebastian Beck Jorgensen was awarded a Harold Mitchell Postdoctoral Travelling Fellowship
- Gregory Steinberg became an NHMRC Senior Research Fellow
- Shanna Tam was awarded Best Junior Investigator Award (Poster-Scientific) at St Vincent's Hospital Research Week
- Bryce van Denderen was awarded a Senior Investigator Award (Oral) and a Senior Investigator Award (Poster-Scientific) at St Vincent's Hospital Research Week
- Sheena Wee received an NHMRC Australian Biomedical Training Fellowship

Grants

- BE Kemp, ZP Chen, BJ Michell. Regulation of protein kinases and their substrates. NHMRC Project Grant
- GR Steinberg. Identification of novel pathways regulating fatty acid metabolism. Implications for the treatment of insulin resistance and obesity. Diabetes Australia Research Trust
- MJ Watt. Adipose triglyceride lipase: regulation and implications for the aetiology of insulin resistance. NHMRC Project Grant
- MJ Watt. Does pigment epithelium-derived factor contribute to the pathogenesis of obesity-induced insulin resistance? Diabetes Australia Research Trust

Molecular Cardiology

- Grants - DJ Campbell, DL Prior, MJ Black. Investigation of the pathogenesis of diastolic dysfunction. National
- Heart Foundation of Australia - B Dixon, DJ Campbell, D Scott, J Santamaria. Investigations into a TNF antagonist to limit complications following cardiac surgery. National Heart Foundation of Australia
- B Dixon, DJ Campbell, D Scott, J Santamaria. The contribution of inflammation and anti-fibrinolytic agents to lung injury in cardiac surgery. St Vincent's Hospital Melbourne Research Endowment Fund
- H Krum, DJ Campbell, C Reid, S Stewart, D Liew, D Prior, M McGady. Randomised, placebo-controlled, clinical trial of pharmacological intervention in high risk subjects with elevated NT-proBNP to prevent new heart failure. National Heart Foundation of Australia

Immunology and Diabetes

Fellowships and Prizes

- Eveline Angstetra was awarded a Harold Mitchell Postgraduate Travelling Fellowship
- Eveline Angstetra received a Young Scientists Research Travel Grant Award from the Juvenile Diabetes Research Foundation
- Peter Campbell was awarded a Best Oral Presentation Prize at the Transplantation Society of Australia and New Zealand Annual Scientific Meeting, Canberra
- Kate Graham was awarded a JDRF Postdoctoral Fellowship
- Kate Graham was awarded a Young Investigator Award at St Vincent's Hospital Research Week

Grants

- JD Best, K O'Dea, HR Taylor, TWH Kay, AJ Jenkins, D Young. Clinical Centre of Research Excellence: Clinical Science in Diabetes. NHMRC CCRE Grant
- LC Harrison, TWH Kay, G Morahan, AM Lew, P O'Connell. Prevention and cure of type 1 diabetes. NHMRC Program Grant
- T Loudovaris. Cell Therapy for Type 1 Diabetes. Diabetes Australia Research Trust Grant
- HE Thomas, J Allison, TWH Kay. Apoptotic pathways in pancreatic beta cells leading to type 1 diabetes and transplant rejection. NHMRC Project Grant

- JA Trapani, TWH Kay, A Strasser, HE Thomas, J Allison. Cell death pathways and type 1 diabetes. JDRF/NHMRC Special Program Grant

Bone, Joint and Cancer

Fellowships and Prizes

- Ally Chau was awarded a Dora Lush Biomedical Postgraduate Scholarship, NHMRC
- Vanessa Cheung was awarded a Dora Lush Biomedical Postgraduate Scholarship, NHMRC
- Jonathan Gooi received a Travel Award from the International Bone and Mineral Society
- Jack Martin was awarded the Gideon A. Rodan Excellence in Mentorship Award from the American Society for Bone and
- Mineral Research. - Julie Ouach was awarded a Dora Lush Biomedical Postgraduate Scholarship, NHMRC
- Natalie Sims was awarded an ANZBMS Outstanding Abstract Award, ANZBMS Annual Scientific Meeting, Queenstown, NZ.
- Natalie Sims was awarded a Travel Award from the International Bone and Mineral

Society

Grants - MT Gillespi

- MT Gillespie. Role of Parathyroid hormone-related protein in DNA repair and breast cancer susceptibility to TRAIL. The Cancer Council Victoria and National Breast Cancer Research Foundation

Cell Cycle and Cancer

Fellowships and Prizes - Alisa Sedgifar was awarded the Cancer Council Cancer Research Vacation Studentship

Grants

- B Sarcevic. Identification of SAP180 and RBP1 as novel CDK substrates important for regulation of the pRb tumour suppressor. The Cancer Council Victoria

Molecular Genetics

Fellowships and Prizes - Jörg Heierhorst was awarded an honorary appointment as Associate Professor of Medicine, The University of Melbourne

Grants

 J Heierhorst. Identification of telomere-specific recombination pathways. NHMRC Project grant

Cytoskeleton and Cancer

Grants

 O Bernard, R Li, K Mittelstaedt. The search for LIMK1 inhibitors. CRC-CT for the development of anti-cancer drugs

VBCRC Invasion and Metastasis

Grants

- EW Thompson, M Waltham. MMP-13 as a therapeutic target in breast cancer. NHMRC Project Grant
- EW Thompson. Invasion and metastasis of breast cancer. Victorian Breast Cancer Research Consortium

Pharmacogenomics

Fellowships and Prizes

- Amanda Burnside was awarded a Cancer Council of Victoria Summer Studentship
- Sarah Vickery received a Travel Award from Australasian Microarray and Associated Technologies Association

Grants

- M Waltham. Molecular profiling vestibular schwannomas. Pratt Foundation
- M Waltham. New agents to combat breast cancer metastasis. National Breast Cancer Foundation

NRL

Fellowships and Prizes

- The National Serology Reference Laboratory, Australia was a finalist in the Sisters of Charity Health Service Award in Recognition of Excellence and Commitment in the area of Quality for its work "Improving Quality Assurance for Diagnostic Testing Utilising the Internet"

Grants

- D McPhee. Neutralizing Antibody Vaccine Design
- Identification of broadly reactive neutralizing monoclonal antibodies. International AIDS Vaccine Initiative Grant
- D McPhee, K Wilson, E Dax. Potent broadly reactive neutralising HIV-1 monoclonal antibodies. NHMRC Project Grant

Service to the scientific community

Service on Scientific Advisory Boards and Committees

Ora Bernard

- Member, Postgraduate Research Committee, Department of Medicine, St Vincent's Hospital
- Member, PhD Confirmation Committee, Department of Medicine, St Vincent's Hospital

Duncan Campbell

- Member, NHF Heart Failure Guidelines Committee

Roderick Chappel

- Elected Member Representative, Council of the National Association of Testing Authorities (NATA)

Elizabeth Dax

- Chair, Australian Society of Microbiology, Research Trust Committee
- Immediate Past President, Australasian Society of HIV Medicine
- Associate Member, Medical Devices Evaluation
- Member, AHMAC Blood Safety and Quality Working Group
- Member, NCCTG Invitro
- Diagnostics Working Group
- Member, Eye Research Foundation Fundraising Group

Wayne Dimech

- National Examination Council Member, Australian Institute of Medical Scientists
- State Convener/ National Secretary, Clinical Serology and Molecular Special Interest Group

Matthew Gillespie

- Member, Cancer Council of Victoria
- Member, Science Policy Committee of the American Society for Bone and Mineral Society
- Member, NHMRC Research Committee
- Chair, NHMRC Project Grants Working Group
- Chair, Membership and Education Committee, International Bone and Mineral Research Society.

Jörg Heierhorst

- Member, NHMRC Project Grant Review Panel
- Member, Early Career Researcher Committee, Victorian Cancer Agency
- Member, Human Research
- Ethics Committee, St Vincent's Health
- Co-Chair, SVI Seminar Committee

Thomas Kay

- Member, Bio21 Scientific Advisory Committee
- Member, VBCRC Scientific Committee
- Member, Executive Committee Research Council, St Vincent's Hospital
- Member, National Serology Reference Laboratory Management Committee
- Member, Medical and Scientific Advisory Committee, Juvenile Diabetes Research Foundation
- Member, Research Council, Diabetes Australia
- Chair, JDRF Medical Scientific Review Committee, Immunology and Transplantation Panel
- Member, St Vincent's Hospital Medical Executive Committee

Bruce Kemp

- Member, Scientific Advisory Board & Management Committee for National Serology Reference Laboratory
- Member, Scientific Advisory Board, Mercury Therapeutics, Boston

- Chairman, CSIRO Molecular & Health Technologies Science Council

- Member, NHMRC Fellowships Committee Panel

Tom Loudovaris

- Member, Occupational Health and Safety Committee, St Vincent's Institute

Jack Martin

- Member Scientific Advisory Board, Botnar Research Centre, Nuffield Orthopaedic Centre, University of Oxford, UK

- Elected Vice-Chairman, International Society, "Cancer and Bone Society"
- Member, NHMRC Human Genetic Advisory Committee
- Chairman, Medical Research Advisory Committee, Australian Cancer Research Foundation

Dale McPhee

- Chair, Academic Advisory Committee, School of Biological and Chemical Sciences, Deakin University

Michael Parker

- Member, BioCARS Sub-Committee of the Australian Synchrotron Research Program
- Member, Oversight Committee of the Bio21 C3 Facility
- OzReader, Australian Research Council Grants
- Chair, St Vincent's Institute Equipment Committee
- Member, St Vincent's Institute Commercialisation Committee

Boris Sarcevic

- Chair, St Vincent's Institute/ Department of Medicine Seminar Program
- Chair, St Vincent's Institute Mass Spectrometry Committee
- OzReader, Australian Research Council
- St Vincent's Research Week Junior Investigator Award Judge

Natalie Sims

- Member, NHMRC Project Grant Review Panel

Robyn Starr

- Panel Chair, NHMRC Career Development Award Assessment Committee
- Member, UROP Committee (Bio21)

Gregory Steinberg

- Member, NHMRC Project Grant Review Panel: GIT/Liver/ Nutrition/Diabetes/Obesity.
- Member, SVI Equipment Committee
- Member, SVI Postgraduate Research Scholarships Committee

Erik Thompson

- Chair, Paget-Ewing Award Committee, Metastasis Research Society
- Founding President (to 09/07) and Committee Member (from 09/07), Australasian Microarray & Associated Technologies Association
- Founding Treasurer, The EMT International Association
- Board Member, Metastasis Research Society (International)
- Member, Tissue Resource Management Committee, Shared SVH/PeterMac Tissue Bank
- Member, St Vincent's Hospital Cancer Steering Committee
- Member, Research Advisory Committee, National Breast Cancer Foundation, Australia

Bryce van Denderen

- Member, Professional Secretariat, Institutional Biosafety Committee, St Vincent's Health
- Member, Professional Secretariat, Animal Ethics Committee, St Vincent's Health
- Co-organiser, St Vincent's Institute/Department of Medicine Seminar Program

Matthew Watt

- Member, SVI Equipment Committee
- Poster Judge, St Vincent's Hospital Research Week
- Member, SVI Student Award Committee
- Member, SVI Mass Spectrometry Committee

Service to the scientific community

Service on Boards and Editorial Boards

Matthew Gillespie

- Board Member, International Bone and Mineral Research Society
- Board Member, Australian and New Zealand Bone and Mineral Society
- Editorial Board, Arthritis and Rheumatism
- Editorial Board, Bone
- Editorial Board, BoneKey
- Editorial Board, Journal of Bone and Mineral Research
- Editorial Advisory Board, Journal of Oral Biosciences

Thomas Kay

- · Associate Editor, Journal of Molecular Endocrinology
- Regional Editor, Autoimmunity
- Associate Editor, Endocrinology

Bruce Kemp

- Editorial Board, Cellular Signalling
- Editorial Board, Journal of Molecular and Genetic Medicine

Jack Martin

- Board member, Victorian Breast Cancer Research Consortium
- Associate Editor, Bone
- Associate Editor, EndocrinologyAssociate Editor,
- Calcified Tissue International
- Editorial Board, Arthritis Research and Treatment
- Editorial Board, Trends in Endocrinology and Metabolism
- Editorial Board, BoneKey

Julian Quinn

- Editorial Board, Bone

Natalie Sims

- Editorial Board, Bone

Robyn Starr

- Editorial Board, Cytokine and Growth Factor Reviews

Gregory Steinberg

- Editorial Board, American Journal of Physiology Endocrinology and Metabolism

Erik Thompson

Anne Thorburn

Kong Wah Ng

David Ascher

Wayne Dimech

Melbourne, 2008

Matthew Gillespie

Hawaii, USA

2008

Branch

- Editor, Obesity Reviews

Service on Conference

- Member, Royal Australian

- Member, Local Organising Committee, Australian Society for

Microbiology Annual Conference,

- Program Chair, Australian and

Society, Queenstown, NZ

New Zealand Bone and Mineral

- Program Committee, 29th Annual

Meeting of the American Society

for Bone and Mineral Research,

- Program Committee, IBMS Davos

Therapeutics, Davos, Switzerland

Workshop: Bone Biology &

- Program Chair, Australian and New Zealand Bone and Mineral Society, Melbourne, 2008

Organising Committees

Chemical Institute, Victorian

- Editorial Board, Bone

- Associate Editor, The Breast Journal
- Associate Editor, Clinical and Experimental Metastasis
- Guest Editor, Cell, Tissue Organs Special Issue on the 2nd International EMT Conference, 2007
- Guest Editor, Clinical and Experimental Metastasis Special Issue on Epithelial Mesenchymal Transitions in Cancer

Bruce Kemp

- Member, Organising Committee, Lorne Conference on Protein Structure and Function

- Program Committee,

Society, Sydney, 2009

Society, Sydney, 2009

- Chair, Membership and

4th Australian Telomere

Workshop, Sydney, 2008

Biology, Melbourne

Research Society

Jörg Heierhorst

International Bone and Mineral

Zealand Bone and Mineral

Society and Australian and New

- Program Chair, Cancer and Bone

Education Committee for the

International Bone and Mineral

- Member, Organising Committee,

Member, Program Committee &

XXIII International Conference on

Yeast Genetics and Molecular

Local Organising Committee,

- Chair, Finance Subcommittee, Lorne Conference on Protein Structure and Function
- Chairman, CSIRO Molecular Health Technologies Science Council

Jack Martin

- Co-organiser, International Conference, "Cancer-induced Bone Diseases"
- Co-organiser, Molecular Pharmacology of Bone, St. Catherine's College, Oxford, UK
- Member Program Organising Committee, International Congress of Endocrinology, Rio de Janero, 2008.
- Co-organiser, Symposium on Paget's Disease, Oxford, UK

Michael Parker

- Member, Lorne Protein Organising Committee
- Chair, Program Sub-Committee of the Lorne Protein Organising Committee

Boris Sarcevic

- Member, St Vincent's Research Week Organising Committee, St Vincent's Hospital.
- Session Chair, Undergraduate Research Opportunity Program Presentation Day, University of Melbourne

Natalie Sims

- Chair, Local Organising Committee, Australian and New Zealand Bone and Mineral Society, Melbourne, 2008

Erik Thompson

- Co-Chairperson, Program Committee, 2008 Joint Metastasis Research Society
- AACR Conference on Metastasis,
 3-7 August 2008, Vancouver,
 British Columbia, Canada
- Co-Convenor, 2nd Australian Breast Cancer Conference, Melbourne, November 19-20

Collaborations

Structural biology

- Dr H Drummer, Macfarlane Burnet Institute. HCV
- Dr A Poumbourios, Macfarlane Burnet Institute. HCV
- Prof L Tilley, Department of Biochemistry, La Trobe University. Malarial proteins
- Dr B Rawlinson, Department of Microbiology, Prince of Wales Hospital, NSW. Cytomegalovirus
- Dr D Rhodes, Avexa, Victoria. HIV
- Dr S Tucker, Biota, Victoria. Viral respiratory diseases
- Dr O Bernard, St Vincent's Institute. LIM kinase
- Prof P Board, John Curtin School of Medical Research, Australian National University. Glutathione transferases
- Prof D Bowtell, Peter MacCallum Cancer Institute. Proteins involved in ubiquitination
- Prof A Frauman, Department of Medicine, Austin Health, The University of Melbourne. Prostate cancer proteins
- Prof B Kemp, St Vincent's Institute. Protein kinase regulation
- Prof A Lopez, Hanson Centre for Cancer Research. Cytokine receptor
- Prof J Martin, St Vincent's Institute. Phosphodiesterases
- Prof E Simpson, Prince Henry's Institute of Medical Research. Steroid receptors
- Dr D Stapleton, Bio21 Institute. Protein kinase regulation
- Dr R Thier, School of Biomedical Sciences, University of Queensland. GSTs
- Prof M Vadas, Hanson Centre for Cancer Research. Protein kinases
- Dr M Waters, IMB, University of Queensland. Growth hormone receptor
- Dr A Albiston, Howard Florey Institute. IRAP
- Dr A Christopoulos, Department of Pharmacology, The University of Melbourne. Muscarinic receptors
- Dr R Cappai, Department of Pathology, The University of Melbourne. Proteins implicated in Alzheimer's disease

- Dr K Barnham, Department of Pathology, The University of Melbourne. Proteins implicated in Alzheimer's disease
- Dr S Y Chai, Howard Florey Institute. IRAP
- Dr P Curmi, Department of Physics, University of New South Wales. CLICs
- Dr J Jamie, Department of Chemistry, Macquarie University. IDO
- Dr J Lynch, Department of Physiology, Queensland University. Ligand-gated ion channels
- Prof C Masters, Department of Pathology, The University of Melbourne. Proteins implicated in Alzheimer's disease
- Dr F Mendelsohn, Howard Florey Institute. IRAP
- Dr S Petrou, Department of Physiology, University of Melbourne. Ion channels
- Dr P Sexton, Howard Florey Institute of Experimental Physiology and Medicine. GPCRs
- Dr S Bottomley, Department of Biochemistry and Molecular Biology, Monash University. Serpins
- Dr J Gamble, Hanson Centre for Cancer Research. Protein kinases
- Dr R Pace, Department of Chemistry, Australian National University. Photosystem II
- Dr P Thompson, Department of Medicinal Chemistry, Victorian College of Pharmacy.
 Phosphodiesterase inhibitors
- Dr R Tweten, Department of Microbiology and Immunology, University of Oklahoma. Pore-forming toxins and receptors
- Dr G van der Goot, Department of Biochemistry, University of Geneva. Aerolysin
- Prof P Dyson, Ecole Polytechnique Federale de Lausanne. Cisplatin drugs
- Prof M Lo Bello, Department of Biology, University of Rome "Tor Vergata". Glutathione transferases

- Dr L Garcia-Fuentes, University of Almeria. Glutathione transferases
- Prof B Mannervik, Department of Biochemistry, Uppsala University. Glutathione transferases
- Dr G Stenberg, Department of Biochemistry, Uppsala University. Glutathione transferases
- Prof S Ferreira, Instituto de Bioquimica Medica, Universidade Federal do Rio de Janeiro. APP
- Dr M Karsdal, Nordic Biosciences. Chloride channels
- Dr M Scanlon, Department of Medicinal Chemistry, Victorian College of Pharmacy. HIV integrase
- Dr Stuart Pitson, Hanson Institute. Sphingosine Kinase
- Dr Matthew Perugini, Bio21 Institute, Melbourne University. Bacterial virulence factors
- Assoc Prof Philip Batterham, Bio21 Institute, Melbourne University. Insecticide targets

Protein chemistry and metabolism

- Dr M Febbraio, Baker Heart Research Institute. Inflammation and insulin resistance
- Dr L Witters, Darmouth Medical College. AMPK structure and function
- Dr D Power, Austin Research Institute. AMPK and kidney function
- Dr G McConell, Department of Physiology, University of Melbourne. AMPK and exercise
- Dr D Allen, Department of Physiology, University of Sydney. AMPK and ion transport
- Dr A Means, Duke University Medical Centre. CaM kinase structure and function
- Dr J Hawley, RMIT University. AMPK in exercise and type 2 diabetes
- Dr R Farese, University of California. Insulin resistance and lipid metabolism
- Dr J Lee, Eulji University. Exercise and insulin resistance
- Dr M Birnbaum, Howard Hughes Medical Institute. Skeletal muscle AMPK physiological functions

- Prof J Proietto, Department of Medicine, University of Melbourne. Obesity and glucose metabolism
- Dr S Andrikopoulos, Department of Medicine, University of Melbourne. Obesity and glucose metabolism
- Dr D Cameron-Smith, Deakin University. Obesity and muscle metabolism
- Dr M Ernst, Ludwig Institute of Cancer Research. gp130 signaling and metabolism
- Dr M Lazar, Head of Endocrinology and Metabolism, University of Pennsylvania. Resistin regulation of AMPK and SOCS3
- Dr W Alexander, The Walter and Eliza Hall Institute. SOCS3 and metabolic regulation
- Dr B Kingwell, Baker Heart Research Institute. Lipoprotein regulation of AMPK
- Prof M Hargreaves, Department of Physiology, University of Melbourne. AMPK and skeletal muscle during exercise
- Dr G Lynch, Department of Physiology, University of Melbourne. Regulation of AMPK by muscle contraction
- Dr J Whitehead, University of Queensland. Adiponectin and AMPK
- Dr A Hevener, Department of Endocrinology, University of California. Inflammation and insulin resistance
- Dr A Wilson, St Vincent's Hospital. Insulin resistance, adipocyte biology and cardiovascular disease

Collaborations

Molecular cardiology

- Drs M Woodward, J Chalmers, S Colman, A Patel, S MacMahon, The George Institute for International Health. Novel risk factors for heart failure, myocardial infarction and stroke
- Assoc Prof D Kelly and Prof R Gilbert, The University of Melbourne, Department of Medicine, St Vincent's Hospital. The effect of renin inhibition in the diabetic TGR(Ren-2) rat
- Mr M Yii and Mr J Kenny, Cardiothoracic surgery, St Vincent's Hospital. Establishment of SVHM Cardiac Tissue Bank
- Dr D Prior, Cardiology, St Vincent's Hospital. Investigation of the pathogenesis of diastolic dysfunction
- Dr B Dixon and A/Prof J Santamaria, Intensive Care Unit, St Vincent's Hospital, Melbourne. Investigation of the systemic inflammatory response to cardiopulmonary bypass
- Dr MJ Black, Department of Anatomy, Monash University. Investigation of the pathogenesis of diastolic dysfunction
- Prof H Krum, Department of Epidemiology and Preventive Medicine, Monash University. Strategies for the detection of heart failure in the community
- Prof K Bernstein, Emory University and Pierre Corvol, INSERM U36. Study of genetic models of ACE gene expression
- Prof F Alhenc-Gelas and Dr M Azizi, INSERM U367. Study of the effects of kallikrein gene mutation on urinary kallidin levels in humans

Immunology and diabetes

- Prof L Harrison, Drs S Mannering, A Lew, R Sutherland, S Londrigan, The Walter and Eliza Hall Institute. Immune mechanisms of beta cell life and death
- Prof J Trapani, Peter McCallum Cancer Institute. T-cell mechanisms of beta cell destruction
- Prof A Strasser, The Walter and Eliza Hall Institute. T-cell mechanisms of beta cell destruction
- Prof R Thomas, The University of Oueensland. Clinical trial of Anakinra in type 1 diabetes mellitus
- Dr P Santamaria, The University of Calgary. Mechanisms of pancreatic beta cell death in TCR transgenic mouse models of type 1 diabetes
- Dr M von Herrath, La Jolla Institute for Allergy and Immunology. Mechanisms of beta cell death in the LCMV model of type 1 diabetes
- A/Prof P O'Connell, Westmead Millennium Institute. Clinical islet transplantation
- Dr S Andrikopoulos, The University of Melbourne. The role of SOCS proteins in insulin resistance
- Dr B Coulson, Department of Microbiology and Immunology, The University of Melbourne.
 Understanding the role of rotavirus infection in T1D using the NOD mouse model
- Dr T Brodnicki, The Walter and Eliza Hall Institute. Identification of Mouse Diabetes Susceptibility Genes

Bone, joint and cancer

- Dr J Carlyle, Sunnybrook Research Institute. OCIL actions on Natural Killer cells
- Dr P Croucher, University of Sheffield. Myeloma effects upon bone cells
- Dr M Ernst, Ludwig Institute. IL-11 actions upon bone
- Dr A Fosang, Murdoch Childrens Research Institute. Aggrecan effects upon the growth plate

- Dr E Gardiner, Princess Alexandra Hospital. NPY actions on bone
- Dr D Handelsman, ANZAC Institute. Sex hormones in bone turnover
- Dr M Henderson, Peter McCallum Cancer Institute. Breast cancer metastasis
- Dr B Jenkins, Monash University. IL-11 actions upon bone
- Dr M Karsdal, Nordic Biosciences. Bone anti-resorptives
- Dr N Kularni, Eli Lilly and Company. PTH anabolic actions
- Dr JP Levesque, Biotherapy Program, Mater Medical Research Institute, University of Queensland. Effect of stem cell mobilization on bone formation
- Dr M Ocker, Department of Experimental Hepatology and Oncology, University of Erlangen
- Dr J Onyia, Eli Lilly and Company. PTH anabolic actions
- Dr P Pivonka, The University of Melbourne. Mathematical modelling of bone turnover.
- Assoc Prof J Price, Department of Biochemistry, Monash University. Stress proteins and anti-oxident effects in breast cancer bone metastasis
- Dr L Purton, Center for Regenerative Medicine, Harvard Medical School, Retinoic acid effects on bone
- Dr L Robb, The Walter and Eliza Hall Institute. IL-6 effects upon bone
- Dr D Smith, The University of Melbourne. Mathematcial modelling of bone turnover
- Dr M Smyth, Peter MacCallum Cancer Institute. Natural killer cell and dendritic cell functions
- Dr L Suva, University of Arkansas Medical School. IL-8 in breast cancer metastasis

- Dr N Udagawa, Matsumoto Dental University. Osteoclast inhibition
- Dr C Walkley, Center for Regenerative Medicine, Harvard Medical School, Retinoblastoma protein effects on bone
- Dr I Wicks, The Walter and Eliza Hall Institute. Animal models of arthritis
- Dr I Winkler, Biotherapy Program, Mater Medical Research Institute. Effect of stem cell mobilization on bone formation

Cell cycle and cancer

- Dr H Richardson, Peter MacCallum Cancer Institute. Regulation of cell cycle progression by CDK-mediated phosphorylation of the Brahma SWI/SNF chromatin-remodeling complex
- Dr Ora Bernard, St Vincent's Institute. Regulation of LIMK activity and microtubule dynamics by phosphorylation

Molecular genetics

- Prof Ming-Daw Tsai, Ohio State University. Structural analyses of FHA domain functions
- Prof S Takeda, Kyoto University. Analyses of novel DNA repair pathways
- Prof B Andrews, University of Toronto. Robotic synthetic genetic array analysis of the yeast MDT1 gene
- Dr X Du, Baker Medical Research Institute. Collaborative studies on S100A1 functions in mice
- Prof W Koch and Dr P Most, Thomas Jefferson University. Collaborative studies on S100A1 functions in mice
- Prof T Parker, University of Toronto. Collaborative studies on S100A1 functions in mice
- Dr A Remppis, University of Heidelberg. Collaborative studies on S100A1 functions in mice
- Dr J Baudier, INSERM Grenoble. Collaborative studies on S100A1 functions in mice

Cytoskeleton and cancer

- Prof P Robinson, Children's Medical Research Institute. Identification of the LIMK1interacting protein p25 and determination of its phosphorylation sites
- Prof J Bamburg, Colorado State University. The role of LIMK1 in the regulation of microtuble disassembly
- Dr R Anderson, Peter MacCallum Cancer Centre, The role of LIMK1 in cancer metastasis
- Dr I Street, Walter and Eliza Hall Institute. The search for LIMK1 inhibitors

VBCRC invasion and metastasis

- Assoc Prof P Hill, St Vincent's Hospital. Analysis of epithelial mesenchymal transition markers in archival breast cancer specimens, mammographic density
- Dr R Anderson, Peter MacCallum Cancer Centre. MMPs in mouse mammary metastasis model; breast cancer growth and metastasis in MMP-deficient mice
- Assoc Prof I Campbell, Peter MacCallum Cancer Centre. Genotyping breast cancer cell variants
- Assoc Prof M Henderson, Department Of Surgery, University of Melbourne. Studies in clinical breast cancer specimens
- Dr D Newgreen, Murdoch Children's Research Institute. Epithelio-Mesenchymal Transition (EMT) in breast cancer
- Assoc Prof L Ackland, Deakin University. Epithelio-Mesenchymal Transition (EMT) in breast cancer
- Dr J Price, Monash University, Department of Biochemistry Epithelio-Mesenchymal Transition (EMT) in breast cancer, Molecular determinants of bone metastasis

- Dr M Waltham, St Vincent's Institute. MMP inhibition studies in breast cancer systems and gene array analysis of epithelial-mesenchymal transition
- Dr E Williams, Monash Institute for Medical Research. Studies on bladder and prostate cancer progression and metastasis to bone
- Dr N Ahmed, Department
 Obstetrics and Gynecology,
 University of Melbourne.
 EMT in ovarian cancer spheroids
- Dr L Soon, Australian Key Centre for Microscopy and Microanalysis, NANO-MNRF, Sydney. Breast cancer cell migration in 3-D
- Prof R Henry, Monash University. SAXS analysis for mammographic density
- Dr I Haviv, Peter MacCallum Cancer Centre. Species-specific gene array for tumour stromal interactions
- Dr G Mitchell, Peter MacCallum Cancer Centre. Molecular / cellular analysis of mammographic density
- Prof J Hopper, Centre for MEGA Epidemiology, University of Melbourne. Molecular / cellular analysis of mammographic density
- Dr M Southey, University of Melbourne, Department of Pathology. Molecular / cellular analysis of mammographic density
- Prof K Stanley, University of New South Wales & Corbett esearch.
 Multiplex tandem PCR (MT-PCR) for paraffin-embedded archival material and EMT
- Dr A Swarbrick, The Garvan Institute, PyMT syngeneic model of mouse mammary cancer in FVB/n mice
- Dr E Marcusson, ISIS Pharmaceuticals, Carlsbad, CA, USA. Antisense oligonucleotides in breast cancer

- Dr R Fridman, Department of Pathology, Wayne State University, Detroit, USA. MMP-integrin interactions
- Prof Avhram Raz, Karmanos Cancer Center, Detroit, USA. Role of galectin-3 in breast cancer progression
- Prof Hiroshi Sato, Kanazawa Medical School, Japan. MT-MMP regulation and epitheliomesenchymal transition
- Prof Motoharu Seiki, Department of Cancer Cell Research, Institute of Medical Science, University of Tokyo, Japan. Collagen regulation of MT1-MMP function
- Prof Z Werb, Department of Anatomy, University of California, San Francisco, USA. MMP-13 involvement in breast cancer progression
- Prof LM Sorokin, Max Planck Institute, Germany. Laminins in adipose tissue engineering
- Dr T Sasaki, Max Planck Institute, Germany. SPARC / osteonectin / BM40 effects on MMP-2activation in breast cancer cells

Pharmacogenomics

- Dr L Udabage, Monash University. Role of hyluronan synthase in breast cancer progression
- Dr G Brownlee, Monash University. Role of hyluronan synthase in breast cancer progression
- Assoc Prof T Brown, Monash University. Role of hyluronan synthase in breast cancer progression
- Dr A Stevenson, CSIRO.
 Phase-contrast X-ray radiography in biomedical research
- Dr J Kennedy, ENT Department, S. Vincent's Hospital. Gene expression analysis of acoustic neuromas

Haematology and leukaemia

- Assoc Prof R Starr, St Vincent's Institute. The role of SOCS proteins in early T cell development
- Dr L Robb, The Walter and Eliza Hall Institute. A mouse model of myeloid leukaemia
- Dr R Johnstone, The Peter MacCallum Cancer Centre. Genes involved in T cell leukaemia
- Dr S Russell, The Peter MacCallum Cancer Institute. Cell polarity in T cells
- Prof H Nandurkar, St Vincent's Hospital. A mouse model of B cell lymphoma
- Dr A Wei, Alfred Hospital. Modelling human leukaemia in mice

NRL

- Dr G Vercauteren, Department of Essential Health Technologies, WHO, Geneva. HIV Testing Strategies
- Dr G Dore, NCHECR. Detailed investigation of the humoral immune response to HCV to identify diagnostic and prognostic serological markers
- Dr A Kelleher, NCHECR. Characterising antibody responses for HIV Long Term Non-progressors
- Dr P Gorry, Burnet Institute. Pathogenesis of HIV Long Term Non-progressors
- Dr M Churchill, Burnet Institute. Pathogenesis of HIV Long Term Non-progressors
- Dr J Learmont, ARCBS. Pathogenesis of HIV Long Term Non-progressors
- Dr J Sullivan, ARCBS. Pathogenesis of HIV Long Term Non-progressors
- Dr W Dyer, ARCBS. Pathogenesis of HIV Long Term Non-progressors

Presentations

Structural biology

Michael Parker

- Centre for Cellular and Molecular Biology, Hyderabad, India. Invited speaker.
- Children's Medical Research Institute, Sydney. Seminar speaker
- ARC Centre of Excellence CXS, 2nd Annual Workshop, Melbourne. Invited speaker
- Department of Pharmacology, Monash University, Melbourne. Seminar speaker
- John Curtin School of Medical Research, Australian National University, Canberra. Seminar speaker
- 6th Discovery Science and Biotechnology Meeting, Brisbane. Invited speaker
- IBRO Satellite Symposium on Metals and Membranes in Neuroscience, Melbourne. Invited speaker
- Presentation to the Canadian Minister of Health, The Honourable Tony Clement, Bio21 Institute, Melbourne. Invited speaker
- Australian Society for Biochemistry and Molecular Biology Annual Conference (ComBIO2007), Sydney. Invited speaker
- 3rd Barossa Meeting on Signalling Systems, Barossa Valley, SA. Invited speaker
- Centenary Institute, Sydney. Invited speaker
- Burnet Institute (incorporating the Austin Research Institute), Austin Hospital Campus, Melbourne. Seminar speaker
- Symposium for Professor Dick Wettenhall, Bio21 Institute, University of Melbourne, Melbourne. Invited speaker

Brett Cromer

- World Congress of the International Society for Biomedical Research on Alcoholism, Sydney. Invited speaker

Protein chemistry and metabolism

Bruce Kemp

- Korean Society Medical Biochemistry and Molecular Biology, Seoul, Korea. Invited speaker

- Melbourne University Biochemistry BIO2, Melbourne. Seminar speaker
- CSIRO P-Health Flagship Program-Obesity theme, Aitken Hill, VIC. Invited speaker
- Mercury Therapeutics Inc. Boston, USA. Seminar speaker
- Sebastian Beck-Jorgensen - Australian Diabetes Society, Christchurch, NZ. Speaker
- University of Copenhagen, Denmark. Seminar speaker

Gregory Steinberg

- CSIRO Molecular and Health Technologies, Melbourne. Seminar speaker

Garvan Institute of Medical Research, Sydney, NSW. Seminar speaker

- Harvard School of Public Health, Department of Genetics and Complex Diseases, Boston, USA. Invited speaker
- American Diabetes Association, Chicago, USA. Invited speaker
- Australian Asian Society for the Study of Diabetes, Shanghai, China. Invited speaker
- Australasian Society for the Study of Obesity, Plenary Lecture, Canberra. Invited speaker
- Australian Society for Biochemistry and Molecular Biology, Sydney. Invited speaker
- 4th Garvan Signalling Symposium, Sydney, NSW. Invited speaker

Bryce van Denderen

- Australian & New Zealand Bone and Mineral Society,17th Annual Scientific Meeting, Queenstown, NZ. Speaker
- American Society for Bone & Mineral Research, 29th Annual Meeting, Honolulu, USA. Speaker

Matthew Watt

- American Diabetes Association, Chicago, USA. Invited speaker
- Keystone Symposia, Session Chair. Steamboat Springs, USA. Invited speaker
- Australian Physiological Society Featured Symposium, Newcastle, NSW. Invited speaker
- Australian Diabetes Society Annual Meeting, Christchurch, NZ. Speaker

- Monash University, Department of Physiology, Melbourne.
 Seminar speaker
- The University of Melbourne, Department of Physiology, Melbourne. Seminar speaker
- Department of Physiology, The University of Melbourne, Melbourne. Seminar speaker
- School of Exercise and Nutrition Sciences, Deakin University, Melbourne. Seminar speaker
- Centre of Obesity and Research Education, Melbourne. Seminar speaker
- Baker Heart Research Institute, Melbourne. Seminar speaker
- Metabolic Research Unit / Chemgenex, Deakin University, Melbourne. Seminar speaker

Molecular cardiology

Duncan Campbell

- Heart Research Group, The Murdoch Children's Research Institute, Melbourne. Seminar speaker
- Immunology and ghai, diabetes

Thomas Kay

- Endocrine Society of Australia Annual Seminar, Yarra Valley, VIC. Invited speaker
- Diabetes 2007 A Symposium in Honour of Prof Don Chisholm, Sydney. Invited speaker
- 2007 Directions in Diabetes. Symposium organised by Eli Lilly Australia, Sydney. Invited speaker
- Defining Optimal Immunotherapies for Type 1 Diabetes. Symposium organised by The Novartis Foundation, London, UK. Invited speaker
- 9th International Congress of the Immunology of Diabetes Society, - B Miami, USA. Invited speaker A

Eveline Angstetra

- International Congress of the Immunology of Diabetes Society, Miami Beach, USA. speaker

Peter Campbell

 - 25th Transplantation Society of Australia and New Zealand Annual Scientific Meeting, Canberra, ACT. Speaker

Kate Graham

- Australian Diabetes Society Annual Scientific Meeting, Christchurch, NZ. Speaker
- St Vincent's Hospital Research Week. Melbourne. Speaker

Balasubramanian Krishnamurthy

- Young Guns of Immunology Seminar Series, Melbourne. Speaker

Nirupa Sachithanandan

 Australian Diabetes Society Annual Scientific Meeting, Christchurch, NZ. Speaker

Natalie Sanders

- Australian Diabetes Society Annual Scientific Meeting, Christchurch, NZ. Speaker

Signal transduction

Robyn Starr

- Australian Society for Immunology, Sydney. Speaker
- Division of Cancer and Haematology, The Walter and Eliza Hall Institute, Melbourne. Seminar speaker
- Hanson Centre for Cancer Research, Adelaide, SA. Seminar speaker
- Department of Biochemistry, Monash University, Melbourne. Seminar speaker
- Alfred Medical Research and Education Precinct, Melbourne. Seminar speaker

Bone, joint and cancer

- Matthew Gillespie - ENDO 2007, Toronto, Canada. Invited speaker
- Bone Research Society, Aberdeen, Scotland, Invited speaker
- Oliver Bird Conference, The Nuffield Foundation, Aberdeen, Scotland. Invited speaker
- Advances in the Molecular Pharmacology and Therapeutics of Bone Disease, and International Symposium on Paget's Disease, Oxford, UK. Invited speaker

- Advances in the Molecular Pharmacology and Therapeutics of Bone Disease, and International Symposium on Paget's Disease, Oxford, UK. Invited chairman
- The Japanese Society for Bone and Mineral Research, Osaka, Japan. Invited chairman
- The Japanese Society for Bone and Mineral Research, Osaka, Japan. Invited speaker
- 29th Annual Meeting of the American Society for Bone and Mineral Research (Hawaii, USA). Invited chairman
- 29th Annual Meeting of the American Society for Bone and Mineral Research (Hawaii, USA). Invited speaker

Steve Bouralexis

- OPCR User Group Meeting, Melbourne. Invited speaker
- Jonathan Gooi
- International Bone and Mineral Society Annual Scientific Meeting, Montreal, Canada. Speaker

Jack Martin

- International Symposium on Paget's Disease, Oxford, UK. Invited chairman
- 29th Annual Meeting of the American Society for Bone and Mineral Research (Hawaii, USA). Invited chairman
- Gordon Research Conference on Bones and Teeth, New England, USA. Invited speaker
- IOF and University of Melbourne Course, Bangkok, Singapore. Invited speaker
- Asia Pacific Conference, Sydney, NSW. Invited speaker and chairman
- American Society for Bone and Mineral Research Symposium, Washington, D.C, USA. Invited speaker
- Vanderbilt University Centre for Bone Biology, Nashville, USA. Invited speaker

Julian Quinn

- Mater Medical Research Institute, Brisbane. Invited speaker
- Australian and New Zealand Bone and Mineral Society, Queenstown, NZ. Invited speaker and speaker

- Brisbane Bone Group Meeting, Institute for Molecular Bioscience, University of Queensland, Queensland. Invited speaker

Natalie Sims

- Molecular Signalling in Bone Remodelling, Asia-Pacific Conference, Sydney. Invited Speaker
- Australia and New Zealand Bone and Mineral Society Annual Scientific Meeting, Queenstown, NZ. Invited speaker
- American Society for Bone and Mineral Research, Honolulu, USA. Speaker
- International Bone and Mineral Society Annual Scientific Meeting, Montreal, Canada. Speaker
- Australia and New Zealand Bone and Mineral Society Annual Scientific Meeting, Queenstown, NZ. Speaker
- The University of Melbourne Veterinary School, Melbourne. Invited Seminar
- Murdoch Children's Research Institute, Melbourne. Invited seminar speaker

Kong Wah Ng

- Endocrine Society of Australia Annual Scientific Meeting. Invited speaker

Cell cycle and cancer

Boris Sarcevic

 Department of Biochemistry, La Trobe University, Melbourne. Invited seminar speaker

Molecular genetics

Jörg Heierhorst

- XXIII International Conference on Yeast Genetics & Molecular Biology, Melbourne. Speaker
- Lorne Genome Conference, Lorne, Victoria. Speaker

- Australian Cell Cycle Workshop. Stradbroke Island, OLD. Invited speaker and speaker
- The Scripps Research Institute, La Jolla, USA. Seminar speaker
- Department of Genetics, The University of Melbourne, Melbourne. Seminar speaker
- National Cancer Institute NIH, Bethesda, USA. Seminar speaker
- Macfarlane Burnet Institute for Medical Research & Public Health, Melbourne. Seminar speaker

Andrew Hammet

- XXIII International Conference on Yeast Genetics & Molecular Biology, Melbourne. Speaker

Ana Traven

- 28th Lorne Genome Conference, Lorne, Victoria. Speaker
- XXIII International Conference on Yeast Genetics & Molecular Biology, Melbourne. Speaker

Cytoskeleton and cancer Ora Bernard

- Gordon Conference, Oxford, UK. Invited speaker
- Tel Aviv University, Israel. Seminar speaker
- Peter MacCallum Cancer Centre, Melbourne. Seminar speaker

VBCRC Invasion and metastasis

Erik Thompson

- Gordon Research Conference on Matrix Metalloproteinnase, Italy. Speaker
- Melbourne Epithelial Group, St Vincent's Institute, Melbourne. Speaker
- 3rd Meeting of TEMTIA (The EMT International Association), Krakow, Poland. Speaker
- Pan-Pacific Connective Societies Conference, Cairns, OLD (Matrix Biology Society of Australia and New Zealand). Speaker
- Mina Bissell Workshop, Epithelial Mesenchymal Transition. Session Chair
- Australian Society for Medical Research National Scientific Conference, Katoomba, NSW. Speaker
- Australian Breast Cancer Conference, Melbourne. Speaker

Pharmacogenomics

Mark Waltham

- Indo-Australian Conference on Human Variations and Pharmacogenomics, Manipal,
- India. Invited Speaker

NRL

Elizabeth Dax

- Second HIV Infection and Central Nervous System: Developed and Resource Limited Settings and Evolving Mechanisms of HIV Neuropathogenesis in the HAART era: Domestic and Global Issues, San Servolo Island, Italy. Invited speaker
- International Association for Biological Standards Vth Symposium on Advances in Transfusion Safety, Sao Paulo, Brazil. Invited speaker

Roderick Chappel

 5th Meeting of International Leptospirosis Society. Seminar speaker

Wayne Dimech

- National Animal Health Laboratory Network Symposium, Anaheim, USA. Invited speaker
- American Association of Blood Banks Annual Meeting & TXPO. Invited speaker

Publications

Acevedo K, Li R, Soo P, Suryadinata R, Sarcevic B, Valova VA, Graham ME, Robinson PJ, Bernard O (2007) The phosphorylation of p25/TPPP by LIM kinase 1 inhibits its ability to assemble microtubules. Exp Cell Res 313(20):4091-4106

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SVI seminar program

Dr Karen D'Souza Department of Medicine

St Vincent's Hospital

"Novel techniques in echocardiography for assessing left ventricular dysfunction"

Ms Sharon Wong Department of Medicine St Vincent's Hospital

"Development of strategies for the delivery of wt model of Duchenne Muscular Dystrophy"

Dr Karen Dwyer Immunology Research Centre St Vincent's Hospital

"Redefining Regulatory T Cells" Dr Jason Cullen MRC Radiation and

Genome Stability Unit University of Oxford, UK

"Recombination and genome rearrangements"

Dr Andrew Wei Department of Haematology St Vincent's Hospital

"Unlocking the Bcl-2 code for therapeutic benefit"

Dr William Heath Department of Immunology

The Walter & Eliza Hall Institute

"The role of dendritic cell subsets in naïve and memory T cell responses to infection"

Mr Nic Dzamko St Vincent's Institute

"Hormonal activation of AMP activated protein kinase"

A/Prof. Jennifer Wilkinson-Berka Department of Immunology Monash University

"Aldosterone and Angiotensin: targets for the treatment of diabetic retinopathy"

Dr David Segal

School of Exercise and Nutrition Sciences Deakin University

"Novel genes associated with the pathophysiology of obesity and type 2 diabetes"

Dr Amanda Edgely Department of Medicine St Vincent's Hospital

"In vivo metabolic studies in mice: cardiac metabolism in diabetes"

Dr Alexander Thompson

Department of Medicine St Vincent's Hospital

"Studies in the natural history of e antigen negative chronic hepatitis B"

Ms Karen Ostenried BioResources Centre St Vincent's Hospital

"Mice and More" – everything you wanted to know about the mouse facility but were too afraid to ask"

Dr Carsten Schmitz-Peiffer Diabetes and Obesity Program Garvan Institute of Medical Research

"Lipid intermediates and molecular mechanisms in insulin resistance" Ms Lorien Parker

St Vincent's Institute

"Structural studies of glutathione transferases"

Prof. Gisou van Der Goot Global Health Institute, Lausanne, Switzerland

"Anthrax toxin: mimicking a signalling molecule to hijack a pathway"

Dr Rohan Steel St Vincent's Institute

"Hsp70 and the stuff you throw away"

A/Prof. Darren Kelly Department of Medicine St Vincent's Hospital

"Molecules to Medicine" **Dr Maqsood Elahi** Department of Cardiothoracic

Surgery St Vincent's Hospital "Oxidative stress and inflammation

in cardiovascular disease" **Dr Mike Ryan**Department of Biochemistry

La Trobe University

"Making mitochondria work: importing importers, assembling complex complexes and understanding the networks that network"

Dr Simon Schenk

Department of Medicine University of California, San Diego "SIRT!: a potential target for the

treatment of insulin resistance"

Dr Barbara Fam Department of Medicine

Austin and Repatriation Medical Centre

"The progression of beta-cell dysfunction in the New Zealand obese mouse"

Prof. Paul Gleeson

Department of Biochemistry & Molecular Biology The University of Melbourne

"Membrane trafficking: Dissection of the export and import pathways of mammalian cells"

Dr Anne Voss

Molecular Medicine Division The Walter & Eliza Hall Institute

"Regulation of precursor proliferation and neuronal migration during development of the cerebral cortex"

Ms Amy Wilson O'Brien Department of Medicine St Vincent's Hospital

"Regulation and functional activation of the novel glucose transporter protein-GLUT12"

Dr Jason Wong University College Dublin Ireland

"Activity profiling of platelets using chemical proteomics"

Ms Stephanie Lebret St Vincent's Institute

"Epithelial-stromal interactions in mammary lineage development and carcinogenesis"

A/Prof. Koichi Matsuo Keio University School of Medicine, Japan

"Regulation of bone remodelling through ephrin-Eph interactions"

Prof. Peter Rathjen The University of Melbourne *"Directed differentiation of*

embryonic stem cells" **Prof. Eleanor Mackie** School of Veterinary Sciences The University of Melbourne

"Regulation of bone and muscle cell function by thrombin"

Dr Craig Nelson

Department of Medicine St Vincent's Hospital

"Inflammation, oxidative stress and endothelial dysfunction in vascular disease and Type 1 Diabetes"

Dr Anke Roelofs

University of Aberdeen

"Bisphosphonates and related compounds: Mechanisms of action and anti-tumour activity"

Dr Robert Townley

Columbia University School of Arts and Sciences, New York

"The Governor of the Cellular Economy; Crystal structures of Fission Yeast AMPK with regulatory ligands"

Dr Marco Cecchini

Departments of Clinical Research & Urology University of Bern, Switzerland

"Bioluminescent imaging and its application to bone metastasis"

Prof. Hiroshi Maruta

Hamburg University Hospital Germany

"Signal therapy of cancers: hunting down the targets along the PAK pathways"

Dr Patricia Ducy

Department of Pathology Columbia University College of Physicians and Surgeons, New York

"Endocrine control of glucose and fat metabolism by the skeleton; osteocalcin as a hormone"

Dr Albert Mellick

Oueensland Institute of Medical Research Griffith University of Melbourne

"Analysis of bone marrow compartment-derived contributions to the tumour stroma using promoter-driven lenti-viral hairpin vectors"

Organisational chart



leukaemia

SVI is a world centre of excellence for medical research into the cause, prevention and treatment of diseases which are both high in incidence and serious in their effect on health.

Diseases studied at SVI

- Type 1 and type 2 diabetes
- Obesity and Heart disease
- Bone diseases such as Arthritis and Osteoporosis
- Cancer and the spread of cancer
- Infectious diseases such as Hepatitis and AIDS
- Alzheimer's and other neurological disorders

SVI is affiliated with St Vincent's Hospital and The University of Melbourne and is a member institution of the Sisters of Charity Healthcare Service. SVI is accredited by the NHMRC as an independent research institute.

SVI hosts the National Serology Reference Laboratory and is a member of Bio 21; the Victorian Breast Cancer Research Consortium; St Vincent's Diabetes Centre of Excellence; and the Association of Australian Medical Research Institutes. Through these links SVI provides a valuable service to clinical medicine, graduate education and community welfare.

SVI staff and students

Patron

Sir Gustav JV Nossal, AC CBE MBBS BSc(Med) Syd PhD Melb HonLLD Mon HonLLD Melb HonMD Mainz HonMD Ncl HonMD Leeds HonMD UWA HonDSc Syd HonDSc Old HonDSc ANU HonDSc UNSW HonDSc LaT HonDSc McMaster HonDSc Oxon FRCP FRACP FRCPA FRACOG (Hon) FRCPath FRACGP FRSE FTSE FAA FRS

Staff St Vincent's Institute

Director

Thomas WH Kay, BMedSci MBBS PhD Melb FRACP FRCPA: Professor (Medicine), The University of Melbourne

Associate Directors

Matthew T Gillespie, BSc(Hons) PhD Mon; NHMRC Principal Research Fellow; Associate Professor (Medicine), The University of Melbourne

Michael W Parker, BSc(Hons) ANU DPhil Oxon; ARC Federation Fellow; NHMRC Honorary Fellow; Professorial Fellow (Biochemistry and Molecular Biology and Bio21 Institute), The University of Melbourne

John Holt Fellow

T John Martin, AO MD DSc Melb Hon MD Sheffield FRACP FRCPA FAA FRS; Emeritus Professor (Medicine), The University of Melbourne

Pehr Edman Fellow

Bruce E Kemp, BAgSci(Hons) Adel PhD Flinders FAA, FAAAS, FRS; ARC Federation Fellow; Honorary NHMRC Research Fellow; Professor (Medicine), The University of Melbourne

Research Faculty

Janette Allison, BSc(Hons) PhD London

Ora Bernard, MSc TelAviv; PhD McGill; MPS Mon; Associate Professor (Medicine), The University of Melbourne

Duncan Campbell, BMedSci MBBS; PhD Grad Dip Epid Biostat Melb; FRACP FCSANZ; Associate Professor (Medicine). The University of Melbourne

Jörg Heierhorst, MD Hamburg; NHMRC Senior Research Fellow; Associate Professor (Medicine), The University of Melbourne

David Izon, PhD Mon; Senior Fellow (Medicine), The University of Melbourne

Galina Polekhina, MSc(Hons) Moscow State PhD Aarhus; NHMRC RD Wright Fellow, Senior Fellow (Medicine), The University of Melbourne

Boris Sarcevic, BSc(Hons) LaT PhD Melb; Senior Fellow (Medicine), The University of Melbourne

Natalie Sims, BSc(Hons) PhD Adel; NHMRC Senior Research Fellow; Senior Fellow (Medicine), The University of Melbourne

Robyn Starr, BSc(Hons) Adel PhD Maryland; Viertel Senior Medical Research Fellow; Honorary NHMRC Research Fellow; Associate Professor (Medicine), The University of Melbourne

Gregory Steinberg, BSc PhD Uni Guelph; NHMRC Senior Research Fellow; Senior Fellow (Medicine),

The University of Melbourne Helen Thomas, BSc(Hons) UWA PhD Melb; NHMRC RD Wright Fellow; Senior Fellow (Medicine), The University of Melbourne

Erik Thompson, BSc(Hons) PhD Griffith; Associate Professor (Surgery), The University of Melbourne

The University of Melbourne

Karla Acevedo, BSc (Hons)

LaT PhD Melb (until 06/07)

Elizabeth Allan, BSc Otago

PhD Melb; Fellow (Medicine),

The University of Melbourne

Brett Bennetts, BSc(Hons)

Chris Anstey-Gilbert, BSc(Hons)

Salford MSc Exeter PhD Sheffield

Steve Bouralexis, BSc Flinders BCompSc Uni SA BHealthSc(Hons)

PhD Adel; NHMRC Peter Doherty

Andrew Carey, BSc(Hons) PhD

RMIT; NHMRC Peter Doherty

Zhiping Chen, BSc Shanghai

Matthew Chung, MSc(Hons) PhD Auckland (from 12/07)

Brett Cromer, BSc(Hons) PhD

Paul Egan, BSc(Hons) MSc PhD Melb (from 11/07)

PhD Melb; NHMRC Industry

Fellow; Honorary Senior Fellow

Martina Fuchsberger, Diploma

Vienna PhD Melb (from 02/07)

Michael Gorman, BSc(Hons)

Kate Graham, BSc(Hons) PhD

Melb; JDRF Postdoctoral Fellow

Liverpool PhD London (from 01/07)

(Bio21 Molecular Science and

Biotechnology Institute)

Sandra Galic, BSc (Hons)

Eberhard-Karls Uni PhD

Monash (from 12/07)

Blessing Crimeen-Irwin, BSc(Hons)

Susanne Feil, BSc MSc Stockholm

Research Scientists

(until 06/07)

Adel

Fellow

Fellow

PhD ULP France

Melb (from 12/07)

ANU (until 03/07)

Rong Li, PhD Xian Medical Mark Waltham BSc(Hons) PhD Thomas Loudovaris, BSc(Hons) Old; Senior Fellow (Surgery), PhD Melb

> Belinda Michell, BSc(Hons) MBA Mon PhD Melb; Senior Fellow (Medicine), The University of Melbourne

Andrew Hammet, BSc(Hons) PhD

Karl Häusler, BAppSc PIT MAppSc

Vicky Kartsogiannis, BSc(Hons)

Rebecca Keall, BSc (Hons) Melb

PhD James Cook Uni DipEd

Jack King-Scott, BSc(Hons)

Queensland PhD Dundee (from

Balasubramanian Krishnamurthy,

Stephanie Lebret, BSc(Hons) PhD

MBBS Bangalore MD Agra DM

Monash (from 12/07)

Deakin (05/07-02/08)

Melb; NHMRC CJ Martin Fellow

Guido Hansen, Dip Biol PhD

Cologne (until 09/07)

RMIT PhD Melb

PhD Melb

11/07)

Lucknow

Luke Miles, BSc(Hons) PhD LaTrobe

Rachel Mudge, BSc(Hons) PhD Melb; NHMRC CJ Martin Fellow

Jonathon Oakhill, BSc PhD

Döne Onan-Asik, BAppSc RMIT, DipEd Melb, PhD Mon

Sueli Pompolo, PhD Sao Paulo (from 03/07)

Julian Quinn, BSc(Hons) MSc Strathclyde DPhil Oxon; Senior Fellow (Medicine), The University of Melbourne

Martin Sadowski, Diploma Giessen PhD Basel

John Scott, BSc Glasgow PhD Dundee

Monique Smeets, PhD Vrije Universiteit Amsterdam

Rohan Steel, BSc(Hon) PhD Melb

Ana Traven, BSc(Hons) MSc PhD Uni Zagreb NHMRC Peter Doherty Fellow

Peter Walsh, BSc(Hons) LaTrobe PhD Melb

Manisha Shah, MSc PhD India

Bryce van Denderen, BSc(Hons) PhD Melb; Senior Fellow (Medicine), The University of Melbourne

Morgan Wallace, BSc(Hons) PhD Mon (01/07-10/07)

Sheena Wee, BSc(Hons) PhD Melb

Matthew Watt, BAppSci(Hons) PhD Deakin; Senior Fellow (Medicine), The University of Melbourne (until 12/07)

Visiting Scientists Sebastian Beck Jorgensen, PhD

Marco Cecchini, MD Padua

Nicole Horwood, PhD Melb Lotte Leick, MSc Copenhagen (from 09/07)

Keith Thompson, PhD Aberdeen

Research Assistants

Rochelle Ayala-Perez, BSc Melb Tony Blick, BSc(Hons) Mon

Melissa Ciccomancini, BSc(Hons) Mon

Mirijana Cipetic, BSc(Hons) Melb

Andrea Connor, BSc(Hons) Vancouver (until 08/07)

Gabriela Crespi, Dip Biol Nat Univ Cordoba

Hayley Croom, BSc(Hons) Melb

Caroline Dobrzelak, BA/BSc Melb (from 06/07)

Sarah Emmett, BSc(Hons) Monash (from 08/07)

Ankita Goradia, BSc MSc Mumbai (from 04/07)

Nancy Hancock, BA California State Fresno MA San Francisco State

Kimberley Hewitt, BSc ANU (from 04/07)

Jane Honeyman, BBiomedSci BSc (Hons) Melb (from 05/07)

Junguan Huang BBiomedSci Melb (from 01/07)

Gaurang Jhala, BSc MSc Pune

Frosa Katsis, BAppSc IIC PIT

Francine Ke, (06/07-12/07)

Lei Shong Lau, BSc (Hons) Melb (until 02/07)

Sara Lawrence, BSc Bath PhD London (from 08/07)

Tricia Liang Lo, BSc(Hons) Melb

Lina Mariana, BSc(Hons) Melb Narelle McGregor,

AssocDipApplSci VUT, BSc LaT Kevin Mittelstaedt, MSc Berlin

University Hooi-Ling Ng, BSc(Hons) Melb

Lorien Parker, BSc(Hons) Melb (from 09/07)

Natalie Sanders, BSc(Hons) Melb

Priscilla Soo, BSc(Hons) Melb

Annabel Southy, BSc Melb (from 8/07)

Kher Shing Tan, BAppSci RMIT (from 08/07)

Julian Tang, Dip Biotech Temasek Polytechnic BSc(Hons) Melb

Nora Tenis, BSc Mon GradDipMedLabSc Uni SA

Sarah Vickery, BSc Melb (until 02/07)

Emma Walker, BSc(Hons) Deakin

Chief Technical Officers

Virginia Leopold, BSc(Hons) LaT Patricia Ho, BSc Mon

Copenhagen

Senior Technical Officers

Melanie Rowe, DipAppSci Animal Tech Box Hill (until 05/07)

Stacey Fynch, DipAppSci Animal Tech NMIT

Technical Officers

Catherine Li, CertLabTech Hong Kong Polytechnic BAppSc RMIT Ingrid Poulton, DipHealthMLS RMIT

Laboratory Assistants Sally Emini

Kate Hurley (until 04/07) Inggrid Wardani

Senior Principal

Research Associates Peter Choong, MBBS MD Melb FRACS FAORTHA; Professor of Orthopaedics, St Vincent's Hospital and The University of Melbourne

Anthony d'Apice, MBBS MD Syd MRACP FRACP FRCPA; Professor/ Director of Clinical Immunology and the Immunology Research Centre, St Vincent's Hospital and The University of Melbourne

Kong Wah Ng, MBBS (Hons) Mon MD Melb FRACP FRCP Edin; Associate Professor (Medicine), The University of Melbourne

Principal Research Associates

Michael Henderson, MBBS FRACS, Associate Professor (Surgery), St Vincent's Hospital and The University of Melbourne

John Slavin, MBBS FRACPA; Department of Pathology, St Vincent's Hospital

Darren Kelly, PhD, Department of Medicine, St Vincent's Hospital and The University of Melbourne (from 11/07)

Senior Associates

Harshal Nandurkar, MBBS Bombay PhD Melb FRACP FRCPA; Staff Haematologist, St Vincent's Hospital

Craig Morton, BSc(Hons) PhD Melb; Principal Research Scientist, Biota Holdings Limited; Senior Lecturer (Biochemistry and Molecular Biology), Monash University

Evange Romas, MBBS PhD Melb Senior Lecturer (Medicine), The University of Melbourne

Associates

Julian Adams, BSc MSc Cantab PhD Massey

Sue Rogers, BSc(Hons) PhD Lond; Department of Medicine, The University of Melbourne

Jerome Wielens, BAppSci(Hons) PhD Monash

Chief Executive Officer SVI Foundation Robin Berry, BAgr Sci Melb MEc UNE **Commercialisation Development Manager** Anthony Mason, PhD ANU

Business Manager and Company Secretary David Rees, BBus RMIT CPA ACIS Grad Dip CSP

Laboratory and Technical Services Manager David Murfitt, HNC AppBiol Cambridge CAT

Research and Administration Manager Anne Thorburn, BSc(Hons) PhD Syd

Grants Officer Anne Johnston, BSc(Hons) PhD Melb

Development Manager Clare Lacey

Communications Manager Jo Crowston, BA(Hons) Sussex

Executive Officer Policy and Projects Claire Tanswell, GCertBusAdmin Swinburne (until 12/07)

Human Resources Manager Elizabeth Owen, MHRM Mon, B Bus Systems Mon (from 07/07)

Payroll Adminstrator Bonnie LaVelle

Accounting Staff Froilan Altarez

Jing Zhang AdvDipAccRMIT

Administrative Assistants Steven Boz Beth Castles

Leonie Loveday

Kathryn O'Connell Dimitra Samaras

IT Manager Peter Tonoli

IT Support Officers James Mugg, BA LaT Christopher Ryan, BSc/BIS Melb

Staff National Serology Reference Laboratory, Australia

Director Elizabeth M Dax, AM MB BS Melb PhD Mon MD Melb; Associate Professor (Microbiology and Immunology), The University of Melbourne

General Manager Susan Best, MAppSc RMIT MBA Melb

Research Coordinator Dale McPhee, BSc(Hons) PhD Mon; Associate Professor (Microbiology and Immunology), The University of Melbourne

Ouality Manager Roderick Chappel, BAgrSc PhD Melb MASM

Project Manager

Wayne Dimech, BAppSc RMIT FAIMS MBA LaT Scientists

Thein Thein Aye, MB BS PhD Nihon University

Penny Buxton, BSc(Hons) Mon Denison Chang, BSc(Hons) Mon

Stirling Dick, BSc Tasmania

Jodie Dodin, BSc Mon

Barbara Francis, BSc Melb Grad Dip App Sci (Health Statistics) SUT PhD SUT

Rosina Gribben, BSc Syd

Darren Jardine, BSc (Hons) PhD LaT

Marina Karakaltsas, BSc LaT Sally Land, BSc (Hons) Dip Ed Melb

Kate Learmonth, BSc(Hons) Melb

Tamara McDonald, BSc LaT

Lena Panagiotopoulos, BSc LaT Thu-Anh Pham, BAppSc,

MAppSc RMIT

Scott Read, BSc (Hons) Lond

Kim Richards, BSc (Hons) VU Kathy Smeh, BSc (Hons) DipEd, BEd MEd Melb

Sandy Walker, BSc (Hons) LaT Kim Wilson, BAppSc OIT PhD Melb

Data Management And Website Officer Rosanna Fahmy

Laboratory Assistant Frank Torzillo

Executive Assistant Linda Tracey, G Cert Bus Admin Swinburne

Computer Systems Manager John Tomasov, BSc(Hons) PhD LaT Grad Dip Comp Sc Mon

Office Manager Louie Opasinov, BSc Dip Ed Melb

Administration Assistant Helen Hasler

Students St Vincent's Institute

Postgraduate Scholars

Doctor of Philosophy Theodora Alexiou, BSc(Hons) Mon Eveline Angstetra, BSc(Hons) Melb Alicia Arnott, BSc(Hons) Deakin David Ascher, BSc(Hons) Old

Peter Campbell, BSc(Hons) LaTrobe Emma Carrington,

BSc(Hons) Melb Ally Chau, BMedPharmBiotech(Hons) South Australia Vanessa Cheung, BSc(Hons) Mon

Nicholas Dzamko, BSc(Hons) Flinders

Eugene Estella, MBBS Old FRACP

Kylie Fitzpatrick, BSc(Hons) Mon

Joel Fletcher, BSc(Hons) Melb Jonathan Gooi, BBiomedSc(Hons) Melb

Tristan Iseli, BSc(Hons) Melb

Geoffrey K-W Kong, BSc(Hons) Melb

Michelle Kouspou, BBiomedSc(Hons) Melb

Lisa McCarthy, BSc(Hons) Deakin

Mark McKenzie, BSc(Hons) Melb

Lorien Parker, BSc(Hons) Melb Matthew Pereira, BSc LaTrobe (Hons) Melb

Ruby Platt, BSc(Hons) Virginia

Julie Quach, BApplSc(Hons) RMIT Nirupa Sachithanandan, MBBS Mon FRACP

Hasnawati Saleh, MSc Old BSc(Hons) Hasanuddin, DipSci Old

Randy Suryadinata, BSc(Hons) Melb

Shanna Tam, BSc(Hons) Melb

Sarah Turpin, B App Sci

Razan Wafai, BSc(Hons) Vic Kelly Waldeck, BSc(Hons) UWA

Doctor of Science Frances Milat, MBBS Mon FRACP

Master of Science Edwin Widodo, BSc (Hon) Brawijaya

Undergraduate Scholars

Bachelor of Science (Honours) Audrey Day

Louis Italiano

Xianning Lai

Sarah Vickery

Alisa Sedgifar

Di Wu

Scholars

Jia Ni Zhu

Amanda Burnside

Undergraduate Research Opportunity Program (UROP) Michelle Ashton

Summer Vacation Research

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SVI committees

Board Committees

SVI Audit and Finance Committee

The purpose of the Audit and Finance Committee is to assist the Board in fulfilling its responsibilities in relation to the identification of areas of significant financial risks and the monitoring of:

- adherence to the Company's Statement of Corporate Governance Principles
- maintenance of an effective and efficient internal and external audit
- management and external reporting
- effective management of financials
- compliance with laws and regulations
- business dealings, in particular related party transactions

The Committee also undertakes the role of an audit committee and provides recommendations to the Board on the appointment of the external auditors, direction of audit (without impacting on the auditor's independence) and the level of audit fees.

2007 Committee members (external):

Ian Reid, Michael McGinniss and Ruth O'Shannassy

2007 Committee members (internal):

Thomas Kay and David Rees

SVI Commercialisation and Intellectual Property Committee

The purpose of the Commercialisation and Intellectual Property Committee (CIP) is to ensure processes are in place for protection and commercialisation of the intellectual property assets of SVI.In 2007, the CIP Committee oversaw SVI's participation in the Cooperative Research Centre for Cancer Therapeutics (CRC-CT). The CRC-CT, which involves many other significant Australian research institutions, was set up to commercialise basic cancer research. SVI has been chosen as the core Structural Biology Group of the CRC-CT.

The CIP recommended SVI become a Foundation Member of the Medical Research Commercialisation Fund (MRCF), which will provide investment capital for the commercialisation of early stage research.

Members of the Committee also reviewed SVI's Collaboration Research Agreements with both academic and industrial partners.

2007 Committee members (external):

John Sime (Chair), Barry Jackson, Michael McGinniss, Paula de Bruyn, Michelle Baker, Greg Robinson and Andrew Baker

2007 Committee members (internal):

Thomas Kay, Michael Parker, Tony Mason (Convenor)

Internal Committees

SVI Occupational Health and Safety Committee

The Occupational Health and Safety Committee (OH&S) meets on a fortnightly basis to deal with various health and safety operational issues at the Institute and devise policy in line with legislative and regulatory requirements. During 2007 the Committee commissioned the PC3 laboratory, revised safety induction processes, commenced a revision and update of the OH&S manual, and most notably commissioned an audit of SVI laboratories by a consulting specialist in laboratory safety. This audit paid particular attention to the use, storage and disposal of chemicals and the hazards of working with chemicals.

2007 Committee members:

Matthew Gillespie (Chair), David Murfitt, Claire Tanswell, Virginia Leopold, Andrew Carey, Kate Graham, Karla Acevado, Priscilla Soo, Thomas Loudovaris, and Elizabeth Owen.

SVI Equipment Committee

The SVI Equipment Committee meets monthly to coordinate equipment requirements throughout the Institute and to provide strategic advice to the Director.

The Committee aims to make effective use of scientific equipment and technologies by encouraging researchers to share resources. It administers the annual NHMRC Equipment Grant and also accepts specific, communal and non-communal equipment proposals for consideration according to guidelines. The Committee made a total of 15 applications to various philanthropic trusts and obtained funds to the value of \$244,500 from nine successful applications. Orders placed in 2007 included the following major purchases: Xenogen Bioluminesence Imaging System and a Biomek 3000 Biorobotics, Laboratory Automation Workstation.

2007 Committee members:

Michael Parker (Chair), Matthew Gillespie, David Murfitt, Julian Ouinn, David Rees, Gregory Steinberg, Claire Tanswell and Matthew Watt.

SVI IT Committee

IT Support at St Vincent's Institute is a shared resource, serving both SVI and The University of Melbourne Department of Medicine at St Vincent's Hospital. The SVI/UoM DoM IT Committee meets on a fortnightly basis to review all aspects of IT support across both St Vincent's Institute and The University of Melbourne Department of Medicine.

The Committee reviews policy, procedures and issues concerning all aspects of IT support across these research areas at the St Vincent's campus. The committee co-opts others onto the Committee when particular expertise or extra input is required, for example, the re-design and update of the SVI website.

2007 Committee members:

Matthew Gillespie, David Murfitt, Peter Tonoli, James Mugg, Chris Ryan, Natalie Burgess (UoM DoM).

Income













Expenditure

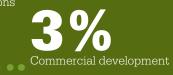




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Administration

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Directors' Report

Your Directors present their report on the company for the financial year ended 31 December 2007.

1. Directors

The names of Directors in office at any timeduring or since the end of the year are:Dr Susan M Alberti AO Hon LLLDProf James A AngusProf James D BestMr Jeffrey N CliftonMs Nicole M FeelyMr Paul HolyoakeMr Barry J JacksonProf Thomas WH KayMr Michael McGinnissMs Ruth A O'ShannassyMr G John PizzeyMr Gregory J RobinsonMs Brenda M ShanahanMr Douglas A Wright

Directors have been in office since the start of the financial year to the date of this report unless otherwise stated.

2. Company secretary

The following person held the position of company secretary at the end of the financial year: Mr David R Rees – Bachelor of Business, Graduate Diploma Company Secretarial Practice, Certified Practicing Accountant, Chartered Secretary. Mr Rees has worked for St Vincent's Institute of Medical Research for 9 years, performing management roles. Mr Rees was appointed company secretary on 1 January 2004.

3. Principal activity

The principal activity of the company during the financial year was medical research. There was no significant change in the nature of the company's principal activity during the financial year.

4. Operating results

The operating surplus of the company amounted to \$962,858. The surplus is reinvested in the company.

5. Dividends

In accordance with the company's constitution no dividends are paid.

6. Review of operations

St Vincent's Institute (SVI) consolidated our position as a national leader in medical research with another solid year in 2007. This year's surplus of \$962,858 is comparable with last year's surplus of \$1,404,673 (\$3,899,218 less \$2,494,545 income carried forward from previous years) considering the growth in expenditure of \$1,402,071 mainly due to increased research activity. Income increased by \$1,042,235 during the year from non-research operating activities and annual income has approximately doubled since 2003.

SVI allocated \$1,757,165 to purchasing new equipment in 2007, including \$600,000 on state of the art imaging equipment and completing the purchase of equipment for the recently constructed Bio-resources Centre. The source of funding for this and other equipment came from philanthropic foundations and other donations. In 2007 the legacies, bequests and donations increased by \$608,551 (33%) to \$2,457,784 and this was largely attributed to the successful efforts of the SVI Foundation, which played a major fund raising role through organising events, developing relationships and networks with industry, philanthropic foundations and individuals. The donations represent 15% of total income, up from 10% last year.

Research income represents 75% of total revenue: the competitive grant component, which covers government, non-government and overseas funding sources is 57% and infrastructure support is 17% and industry 1%.

Directors' Report

SVI recruited additional researchers in 2007 and this together with salary increments caused the increase in salary costs of 16% (an increase in leave provisions also had an impact). Research consumables expenditure increased by 8%, reflecting increases in research activity and price of consumables.

The Victorian and Commonwealth Governments provided \$2,698,875 in infrastructure funding. This amount is derived by applying formulae to competitive grant income. The government's policy of linking infrastructure support to research activity is important as it helps ensure that research growth and progress is not hampered by an inability to provide services to the researcher. These funds are a vital part of our support. They are used in accordance with government guidelines for "indirect" costs of carrying out research such as administration, laboratory services, building operations and commercial development etc. In 2007 the administration (8%) and the other support services (19%) represent 27% of total expenditure. The government infrastructure funding of \$2,698,875 covers 17% of total expenditure. A decrease in infrastructure support, for example by capping Government infrastructure spending in the context of growth in competitive grants would be a significant problem for SVI.

SVI recognises the need to have a strong capital base from which it could generate an income stream that would enable it to support new initiatives, facilities and scientists at critical career stages. The SVI Foundation has made some progress to obtain private funding that can be allocated to our capital growth objective. Over \$400,000 was raised in 2007 for this purpose.

In 2007 the number of staff and students was 133 (2006 – 129). In addition SVI is the host institute for the National Serology Reference Laboratory (NSRL), providing administration and research support to the 29 NSRL staff.

7. Significant changes in state of affairs

No significant changes in the state of affairs of the company occurred during the financial year.

8. After balance date events

No matters or circumstances have arisen since the end of the financial year which significantly affected or may significantly affect the operations of the company, the results of those operations, or the state of affairs of the company in future financial years.

9. Future developments, prospects and business strategies

The Institute is aiming, with St Vincent's Health Melbourne and other campus research institutes, to establish an International Research Centre using a model of integrated medical research and clinical care. The Centre will bring together tissue engineering, bionic technology and material sciences in a clinical environment to focus on regenerative and restorative medicine. The Institute and its partners are looking to redevelop the St Vincent's site at the corner of Victoria Pde and Nicholson St, Fitzroy, Melbourne and is currently making representations to government. The timing for this project is 2014/15 and has an estimated cost of \$370 million.

10. Environmental issues

The company operates predominantly within the medical research sector and is committed to conducting its business activities with respect for the environment while continuing to meet expectations of members, employees, customers and suppliers. During the period from 1 January 2007 to the date of this report, this company has complied with the requirements of the Environmental Protection Act.

11. Options

No options over issued shares or interests in the company were granted during or since the end of the financial year and there were no options outstanding at the date of this report.

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Directors' Report

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12. Meetings of directors

During the financial year, 16 meetings of directors (including committees) were held. Attendees were:

	Directo	rs' Meetings		Comm	ittee Meetings	
			Commercialisat	ion	Audit & Finance	•
	Number eligible to attend	Number attended	Number eligible to attend	Number attended	Number eligible to attend	Number attended
Alberti, SM	5	1	-	-	-	-
Angus, JA	5	2	-	-	-	-
Best, JD	5	2	-	-	-	-
Clifton, JN	5	3	-	-	-	-
Feely, NM	5	1	-	-	-	-
Holyoake, P	5	4	-	-	-	-
Jackson, BJ	5	3	5	4	-	-
Kay, TWH	5	5	5	5	6	6
McGinniss, M	5	4	5	4	6	5
O'Shannassy, RA	5	5	-	-	6	6
Pizzey, GJ	5	5	-	-	-	-
Robinson, GJ	5	4	5	2	-	-
Shanahan, BM	5	4	-	-	-	-
Wright, DA	5	5	-	-	-	-

13. Directors' and auditors' indemnification

The company has not, during or since the financial year, in respect of any person who is or has been an officer or auditor of the company or a related body corporate:

- indemnified or made any relevant agreement for indemnifying against a liability incurred as an officer, including costs and expenses in successfully defending legal proceedings;
- paid or agreed to pay a premium in respect of a contract insuring against a liability incurred as an officer for the costs or expenses to defend legal proceedings; with the exception of the following matters.

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Directors' Report

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During or since the financial year the company has paid premiums to insure each of the directors against liabilities for costs and expenses incurred by them in defending any legal proceedings arising out of their conduct while acting in the capacity of director of the company, other than conduct involving a wilful breach of duty in relation to the company.

14. Proceedings on behalf of company

No person has applied for leave of Court to bring proceedings on behalf of the company or intervene in any proceedings to which the company is a party for the purpose of taking responsibility on behalf of the company for all or any part of these proceedings.

The company was not a party to any such proceedings during the year.

15. Auditor's independence declaration

The lead auditor's independence declaration for the year ended 31 December 2007 has been received and can be found on page 78 of the financial statements.

Signed in accordance with a resolution of the Board of Directors.

Burde M. Shanahar

R.058

Director BM Shanahan

Director RA O'Shannassy

Dated this 17th day of March 2007, Melbourne, Australia



AUDITOR'S INDEPENDENCE DECLARATION UNDER SECTION 307C OF THE CORPORATIONS ACT 2001 TO THE DIRECTORS OF ST VINCENT'S INSTITUTE OF MEDICAL RESEARCH

I declare that, to the best of my knowledge and belief, during the year ended 31 December 2007 there have been:

- (i) no contraventions of the auditor independence requirements as set out in the Corporations Act 2001 in relation to the audit; and
- (ii) no contraventions of any applicable code of professional conduct in relation to the audit.

WEBB AUDIT PTY LTD



Dated: Melbourne: 14 March 2008

Webb Audit Pty Ltd ABN 59116151136 A member of the Webb Group Onr Toorak & Auburn Roads Hawthorn East Vic 3123 Australia PO Box 185 Toorak Vic 3142 Australia Telephone +61 3 9822 8686 Facsimile +61 3 9824 8578 audit@webbgroup.com.au

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St Vincent's Institute Of Medical Research ABN 52 004 705 640, Concise Financial Report For The Year Ended 31 December 2007

Discussion and analysis of the Financial Statements

Information on St Vincent's Institute of Medical Research Concise Financial Report

The financial statements and disclosures in the concise financial report have been derived from the 2007 Financial Report of St Vincent's Institute of Medical Research. A copy of the full financial report and auditors report will be sent to any member, free of charge, upon request.

The discussion and analysis is provided to assist members in understanding the concise financial report. The discussion and analysis is based on the company's financial statements and the information contained in the concise financial report has been derived from the full 2007 Financial Report of St Vincent's Institute of Medical Research.

Income Statement

In 2007 the net surplus is \$962,858, which is a strong result considering expenditure on consumables increased by \$225,920 and employee benefits by \$1,200,423. However these costs were almost fully offset by an increase in non-research income of \$1,042,235. Research income was \$31,152 less than 2006 after deducting \$2,494,545 from the 2006 income for carried forward income.

In 2007, the key sources of funds for the Institute were 56% from government grants, of which 39% was competitive grant funding and 17% infrastructure support. Non-government research grant was 18% and Legacies, Bequests and Donations 15% of total income. The total expenditure was \$15,353,833 and the main components were direct research expenses (68%), laboratory and building services (including depreciation) (16%), administration (8%) and SVI Foundation 3%.

Balance Sheet

In 2007 the total Net Assets increased by \$967,856, representing an increase of 5% on 2006, due to:

- Current Assets increased by \$1,424,739 (18%) and Total Current Liabilities increased by \$858,968 (29%). The increase in cash and liabilities was due in part to Grants in Advance, which increased by \$617,722 at years end. Current Assets were further increased by the funds held as cash but waiting for long-term investment opportunities (\$55,576 in 2006 and \$576,647 in 2007).
- The net value of the property, plant and equipment declined by \$18,919, reflecting that the assets purchased for the year of \$1,757,165 were offset by a similar increase in depreciation.
- Financial Assets increased by \$370,564 and there is a further \$576,647 held as cash waiting for investment.

Statement of Changes in Equity

In 2007 the Equity increased by \$967,856 (5%) due to the net surplus from operating activities of \$962,858 and increase in the financial asset reserve of \$4,998. The increase in financial asset reserve was lower than expected because of the amount of realised profits from the sale of shares that occurred during the year.

Cash Flow Statement

The 2007 net cash position increased by \$1,576,049 (25%), with the non core funding sources of interest, dividends and donations being the key factors for the increase. In contrast the Grants Received less Payments to Suppliers were a net surplus of \$63,979 in 2007 compared with a net deficit of \$62,585 in 2006. So the net cash movement for the core business activity was only \$126,564 from 2006 to 2007. The funds directed to investing activities, in particular plant and equipment, increased by \$942,918.

Income Statement for the year ended 31 December 2007

	Note	2007 (\$)	2006 (\$)
Revenue – research	2	12,249,744	14,775,441
Consumables used		(3,046,290)	(2,820,370)
Employee benefits expense		(8,741,252)	(7,540,829)
Depreciation and amortisation expense		(1,776,084)	(1,755,900)
Other expenses		(1,790,207)	(1,834,663)
Surplus/(Deficit) from research activities		(3,104,089)	823,679
Revenue – non-research	2	3,999,238	2,957,003
Other Income	2	67,709	118,536
Surplus for the year		962,858	3,899,218

The accompanying notes form part of these financial statements.

Balance Sheet as at 31 December 2007

Note	2007 (\$)	2006 (\$)
ASSETS		
Current Assets		
Cash and cash equivalents	7,803,275	6,227,226
Trade and other receivables	1,478,569	1,679,868
Other assets	49,989	-
Total Current Assets	9,331,833	7,907,094
Non-current Assets		
Trade and other receivables	250,000	250,000
Financial assets	1,867,592	1,497,028
Property, plant & equipment	10,930,938	10,949,857
Total Non-current Assets	13,048,530	12,696,885
Total Assets	22,380,363	20,603,979
Current Liabilities		
Trade and other payables	724,199	868,484
Short-term provisions	1,143,769	758,238
Funds held in trust for NSRL accrued leave	138,280	138,280
Other current liabilities	937,275	319,553
Total Current Liabilities	2,943,523	2,084,555
Non-current Liabilities		
Long-term provisions	92,095	142,535
Total Non-current Liabilities	92,095	142,535
Total Liabilities	3,035,618	2,227,090
NET ASSETS	19,344,745	18,376,889
EQUITY		
Retained surplus	19,114,679	18,151,822
Financial asset reserve	230,066	225,067
TOTAL EQUITY	19,344,745	18,376,889

The accompanying notes form part of these financial statements

Statement of Changes in Equity for year ended 31 December 2007

	Note	Retained Surplus \$	Financial Asset Reserve \$	Total \$
Balance at beginning of Financial year 2006		14,464,920	-	14,464,920
Financial asset reserve adjusted for 2005		(212,316)	212,316	-
Adjusted opening balance		14,252,604	212,316	14,464,920
Revaluation increment		-	12,751	12,751
Surplus for 2006 financial year		3,899,218	-	3,899,218
Balance at beginning of financial year		18,151,822	225,067	18,376,889
Revaluation increment		-	4,998	4,998
Surplus for the year		962,858	-	962,858
Balance at end of financial year		19,114,679	230,066	19,344,745

The accompanying notes form part of these financial statements.

Cash Flow Statement for the year ended 31 December 2007

Not	e 2007 (Outflows)	2006 Inflows (Outflows) \$	
Cash flow from operating activities			
Grants received	13,500,811	12,227,449	
Payments to suppliers and employees	(13,436,832)	(12,290,034)	
Donations, legacies and bequests	2,457,784	1,830,079	
Other revenue	324,812	226,863	
Interest received	592,661	352,235	
Dividends received	259,544	103,705	
Net cash provided by operating activities	3,698,780	2, 4 50,297	
Cash flow from investing activities			
Purchase of plant and equipment	(1,757,166)	(563,030)	
Leasehold improvements	-	-	
Payments for investments	(365,565)	(616,683)	
Net cash (used in) investing activities	(2,122,631)	(1,179,713)	
Net increase/(decrease) in cash held	1,576,049	1,270,584	
Cash at the beginning of the year	6,227,226	4,956,642	
Cash at the end of the year	7,803,275	6,227,226	

The accompanying notes form part of these financial statements.

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Notes to the Financial Statements for year ended 31 December 2007

Note 1: The Concise Financial Report

The Concise Financial Report is an extract from the full financial report for the year ended 31 December 2007. The concise financial report has been prepared in accordance with Accounting Standard AASB 1039: Concise Financial Reports and the Corporations Act 2001.

The financial statements, specific disclosures and other information included in the concise financial report are derived from and are consistent with the full financial report of St Vincent's Institute of Medical Research. The concise financial report cannot be expected to provide as detailed an understanding of the financial performance, financial position and financing and investing activities of St Vincent's Institute of Medical Research as the full financial report.

The financial report of St Vincent's Institute of Medical Research complies with all Australian equivalents to International Financial Reporting Standards (AIFRS) in their entirety. The presentation currency used in this concise financial report is Australian dollars.

The accounting policies have been consistently applied by the company and are consistent with those of the previous year unless otherwise stated.

Notes to the Financial Statements for year ended 31 December 2007

Note 2: Revenue

	Note	2007 (\$)	2006 (\$)
Operating activities			
Research activities:			
- government grants	4-5	9,229,200	11,373,926
- other grants		3,020,544	3,401,515
		12,249,744	14,775,441
Non-research activities:			
- legacies, bequests, donations		2,457,784	1,849,233
- dividends from other corporations		259,544	103,705
- interest from other corporations		564,957	364,579
- contract services		535,945	473,961
- royalty		105,353	124,631
- other		75,655	40,894
		3,999,238	2,957,003
Total revenue #		16,248,982	17,732,444
Non-operating activities			
-realised gain on disposal of shares		67,709	118,536
Total other income		67,709	118,536
			•••••••••••••••••••••••••••••••••••••••

The 2006 income includes a carried forward from 2005 of \$2,494,545.

Note 3: Surplus

The following expenditure was incurred in determining the surplus:

	2007 (\$)	2006 (\$)
Expenses		
- research	10,460,132	9,345,035
- non-research	2,718,609	2,339,047
	13,178,741	11,684,082
Transfer of funds to external, joint collaborators	399,008	511,780
Depreciation of non-current assets	1,058,337	1,038,153
Amortisation of non-current assets	717,747	717,747

Notes to the Financial Statements for year ended 31 December 2007

Note 4: Grants - Commonwealth Government

	2007 (\$)	2006 (\$)	
National Health and Medical Research Council:			
- Infrastructure support	1,245,809	970,008	
- Research grants	5,369,282	7,045,774	
Australian Research Council	936,043	507,270	
Department of Health and Ageing	-	958,659	
	7,551,134	9,481,711	

Note 5: Grants - Victorian State Government

	2007 (\$)	2006 (\$)
Department of Innovation, Industry & Regional Development:		
- Operational Infrastructure Support	1,453,066	1,611,528
- Other Direct research grants	225,000	280,687
	1,678,066	1,892,215

Note 6: Trade and other receivables

	2007 (\$)	2006 (\$)
Current		
Grants and reimbursements	1,478,569	1,679,868
Non-current		
St Vincent's Hospital - Imprest Advance	250,000	250,000

Note 7: Segment Reporting

The company operates in the medical research sector where it undertakes basic and clinical research in Australia.

Notes to the Financial Statements for year ended 31 December 2007

Directors' Declaration

The directors of St Vincent's Institute of Medical Research declare that the concise financial report of St Vincent's Institute of Medical Research for the financial year ended 31 December 2007, as set out in pages 80 to 86.

a) complies with Accounting Standard AASB 1039: Concise Financial Reports; and

b) is an extract from the full financial report for the year ended 31 December 2007 and has been derived from and is consistent with the full financial report of St Vincent's Institute of Medical Research

Signed in accordance with a resolution of the Board of Directors.

Burder M. Shonaker

Director BM Shanahan

R.O.S.

Director RA O'Shannassy

Dated this 17th day of March 2008, Melbourne, Australia



INDEPENDENT AUDIT REPORT TO THE MEMBERS OF ST VINCENT'S INSTITUTE OF MEDICAL RESEARCH

Report on the Financial Report

We have audited the accompanying financial report of St Vincent's Institute of Medical Research, which comprises the balance sheet as at 31 December 2007, and the income statement, statement of changes in equity and cash flow statement for the year ended on that date, a summary of significant accounting policies and other explanatory notes and the directors' declaration.

Directors' Responsibility for the Financial Report

The directors of the company are responsible for the preparation and fair presentation of the financial report in accordance with Australian Accounting Standards (including the Australian Accounting Interpretations) and the Corporations Act 2001. This responsibility includes establishing and maintaining internal control relevant to the preparation and fair presentation of the financial report that is free from material misstatement, whether due to fraud or error, selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditor's Responsibility

Our responsibility is to express an opinion on the financial report based on our audit. We conducted our audit in accordance with Australian Auditing Standards. These auditing standards require that we comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance whether the financial report is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial report. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial report, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the board of management, as well as evaluating the overall presentation of the financial report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Independence

In conducting our audit, we have complied with the independence requirements of the Corporations Act 2001. We confirm that the independence declaration required by the Corporations Act 2001, provided to the directors of St Vincent's Institute of Medical Research on 14 March 2008, would be in the same terms if provided to the directors as at the date of this auditor's report.

Webb Audit Pty Ltd ABN 59116151136 A member of the Webb Group Cnr Toorak & Auburn Roads Hawthorn East Vic 3123 Australia PO Box 185 Toorak Vic 3142 Australia Telephone +61 3 9822 8686 Facsimile +61 3 9824 8578 audit@webbgroup.com.au www.webbgroup.com.au



Independence

In conducting our audit, we have complied with the independence requirements of the Corporations Act 2001. We confirm that the independence declaration required by the Corporations Act 2001, provided to the directors of St Vincent's Institute of Medical Research on 14 March 2008, would be in the same terms if provided to the directors as at the date of this auditor's report.

Auditor's Opinion

In our opinion, the concise financial report including the discussion and analysis of St Vincent's Institute of Medical Research for the year ended 31 December 2007 complies with Accounting Standard AASB 1039: Concise Financial Reports.

WEBB AUDIT PTY LTD

AP MARKS Director

Dated: Melbourne 18 March 2008.

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We also acknowledge those donors who wish to remain anonymous.

Trusts and Foundations permanently established for the purpose of allocating funds to the St Vincent's Institute on an ongoing basis: John Holt Medical Research Endowment – administered by Perpetual Trustee, The Mary Jane Polinelli Foundation – administered by Perpetual Trustee, K&A Bongiorno Research Endowment –administered by Perpetual Trustee.

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:

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