



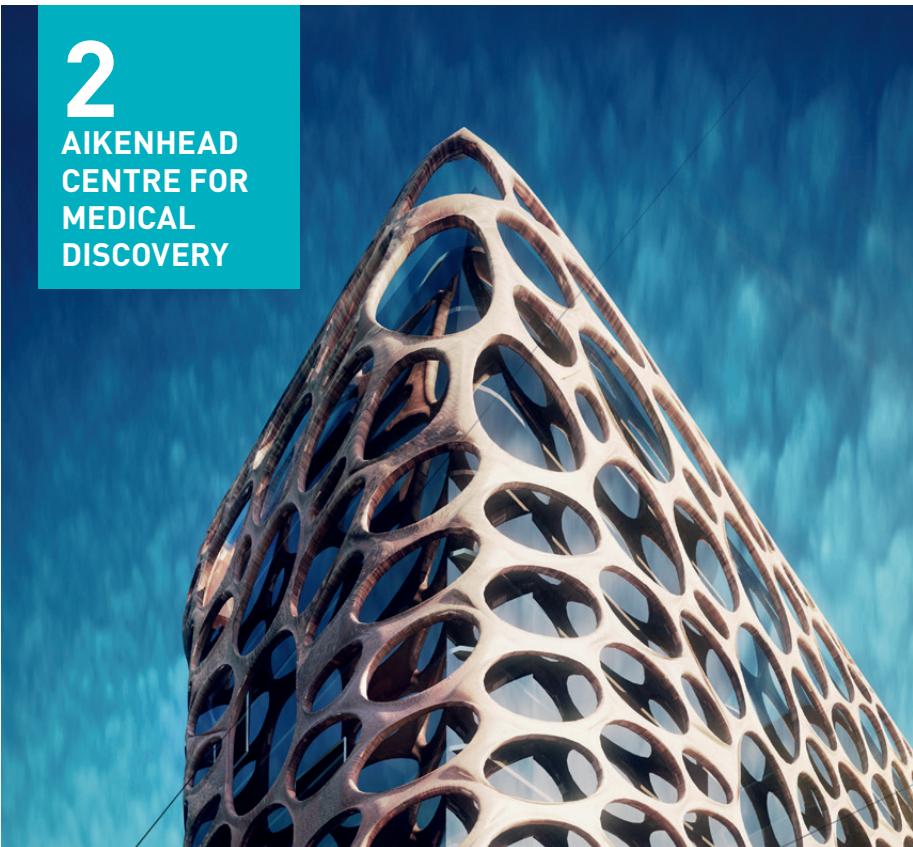
LEADING  
INNOVATION  
COLLABORATION  
**CARE**  
ST VINCENT'S  
HOSPITAL MELBOURNE  
RESEARCH  
REPORT 2014



ST VINCENT'S  
HOSPITAL  
MELBOURNE

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OUR RESEARCH PROGRAM IS A PILLAR OF EXCELLENCE RESPECTED IN ITS OWN RIGHT





## MESSAGE FROM THE CHIEF EXECUTIVE OFFICER **BEN FIELDING**



## MESSAGE FROM THE DIRECTOR OF RESEARCH **DR MEGAN ROBERTSON**

In November 2014, Victorian builder Len Chandler made global news when he became the first person in the world to receive a 3D-printed heel to replace bone lost to cancer. Thanks to the commitment and ingenuity of a clinical team led by Professor Peter Choong and equally dedicated partners in science and industry, Len's leg was saved from amputation and he can now look forward to an active life chasing after his grandchildren.

It is exactly the kind of pioneering and life-changing work that the Aikenhead Centre for Medical Discovery will cultivate and accelerate. As St Vincent's 2014 Research Report clearly demonstrates, what our researchers achieve right now is remarkable, but the ACMD could halve the time it takes to go from discovery to saving lives, not to mention transform our ability to commercialise innovation.

Biomedical engineering is the way of the future, and Victoria is poised to take its place alongside the very few global leaders in the field. We must not allow that window of opportunity to close. The ACMD partners, who represent leaders in healthcare, education and research, are committing \$60 million. The Victorian Government's 2014 pledge of \$60 million recognises that the ACMD's time has come. We're ready to get to work, and with just \$60 million the Federal Government can ensure that Australia attracts and keeps the best of the best in research, that we can save lives faster through biomedical engineering, and that we can export better care, better treatments and better health technology to the rest of the world.

### **BEN FIELDING**

Chief Executive Officer  
St Vincent's Hospital Melbourne

St Vincent's Hospital Melbourne is a strongly mission-driven organisation with values that resonate through all activities across the organisation daily. Our mission statement concludes 'We are committed to providing compassionate and innovative care, enabling hope for those we serve.'

Our commitment to innovative care is reflected by the passion for health and medical research evident across St Vincent's campus and our partners, translating the findings of our scientists into meaningful improvements in clinical care.

The 2014 Research Report celebrates our mid-career level researchers. Outstanding already, they are on the path to becoming the next generation of innovative clinicians and research leaders.

By participating in world-class research, we deliver hope to our patients and community and help determine the future of health care locally and globally.

In 2014, the Research Directorate has taken on a new role to promote and advocate for health and medical research at St Vincent's and to facilitate research across the campuses through 'REACH@SVHM (Research, Advocacy and Collaboration Hub)', a new platform to make research more accessible for participants, researchers and industry partners.

Investigator research at St Vincent's has been strengthened by introducing the Scholarly Selective program for Year 3/4 MD students from Melbourne University, and we continue to have a large cohort of higher degree research students affiliated with several universities, with over 30 students successfully conferred in 2014.

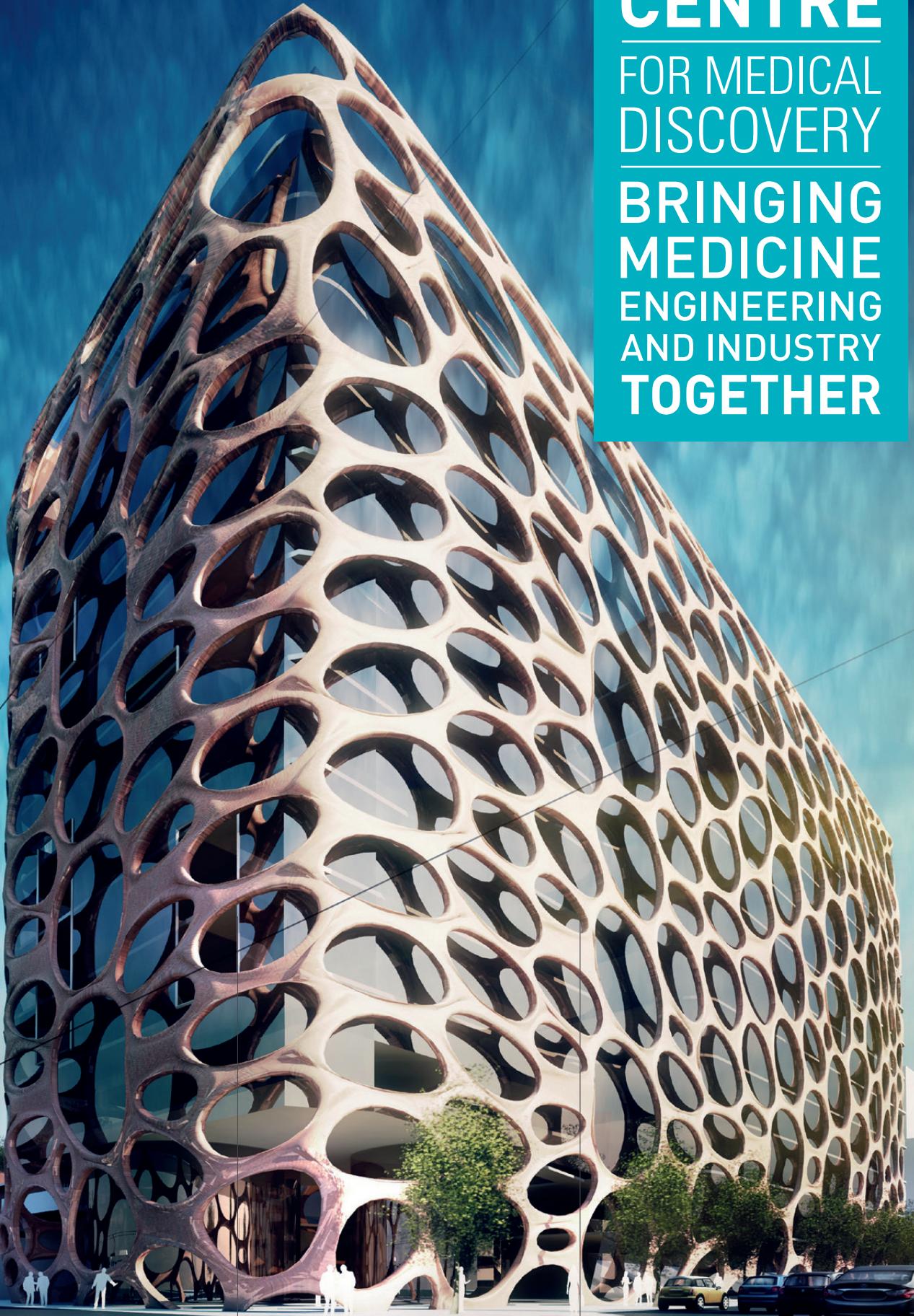
We have established our innovative 'Valet Service' to assist with project submission for HREC review and also to speed the approval process. And we have sought to build productive relationships with industry to benefit both patients and clinicians with access to a wider range of clinical trials.

I am delighted to present the St Vincent's Annual Research Report for 2014 that highlights the extensive range of important research work undertaken at St Vincent's. I wish to congratulate our research community for their wonderful work and encourage them to continue to live our mission – searching for innovation and providing hope for the future.

### **DR MEGAN ROBERTSON**

Director of Research  
St Vincent's Hospital Melbourne

AIKENHEAD  
CENTRE  
FOR MEDICAL  
DISCOVERY  
BRINGING  
MEDICINE  
ENGINEERING  
AND INDUSTRY  
TOGETHER



# OUR SHARED VISION

THE AIKENHEAD CENTRE FOR MEDICAL DISCOVERY WILL BE A RESEARCH AND INDUSTRY HUB – INTERNATIONALLY RECOGNISED FOR TRANSLATING BIOMEDICAL ENGINEERING RESEARCH INTO PATIENT-DRIVEN SOLUTIONS TO CHRONIC DISEASE.

The Centre will bring together leading medical practitioners, engineers, researchers and industry experts in a hospital setting to re-model the treatment and management of disease; generating new jobs and enterprises in a growing global market.

Medical discoveries such as the Cochlear implant, bionic eye and more recently implantable devices to control epilepsy have established Australia as an international leader in biomedical engineering and innovation.

These discoveries have also supported the development of an industry that now delivers exports of around \$4 billion per annum.

To build on these achievements and increase our share of this growing market, we need to attract leading researchers, speed up innovation in industry, and export our patient-centric solutions. This requires a new and more collaborative approach to biomedical engineering. Otherwise, Australia may lose out to international competitors across North America, Europe and the United Kingdom, who are moving quickly to build or enhance their own industries.

## ACMD PROJECT PARTNERS



## ACMD ALLIANCE PARTNERS



## SHARED BENEFITS

1. Development and expansion of biomedical engineering enterprises that secure a share of a growing global market. The economic benefit could be as high as \$2.8 billion over 10 years from the commercialisation of new products.
2. Increased employment opportunities within the biomedical engineering industry. Up to 10,000 new jobs will be created via new and existing enterprises manufacturing new biomedical products. In the short-term, the construction of the new facility will create over one thousand new jobs.
3. Engineering breakthroughs will provide new treatment options and better ways of managing some of the major chronic diseases that affect the lives of Australians. For example, research into new cell therapies to treat diabetes without insulin injections will not only improve the quality of life of people suffering from diabetes but could also extend their working life by at least five years.
4. Development of new devices that focus on improving the health and well-being of patients – such as the development of intelligent bionic implantable devices that can control epilepsy, depression and anxiety – could lead to over \$550 million in savings on healthcare costs over 10 years.
5. The ACMD will be a high profile exemplar of a 'living lab', thus strengthening Australia's international reputation and standing in biomedical engineering research and innovation. The ACMD will become only one of a handful of institutions, globally, translating biomedical engineering research into patient-driven solutions to chronic diseases. It will be able to attract the best researchers, medical practitioners and industry experts and firmly establish its status as a leader in the field.

Such benefits will be possible through the development of a new purpose-built facility to house ACMD partners and researchers. The facility will be located on the St Vincent's Hospital Melbourne campus and provide ready access to the expertise and facilities located within the hospital as well as the broader medical precinct. ACMD partners are already in the process of co-locating to focus on one or two select projects and embed collaborative processes to achieve demonstrable impact.



ST VINCENT'S  
PATIENT  
BACK ON HIS  
**FEET**  
THANKS TO  
WORLD FIRST  
PROCEDURE





Above: A specifically designed titanium implant was created to replace the cancerous heel bone in Len's right foot.

## RUTHERGLEN BUILDER, LEN CHANDLER, WILL BE FOREVER GRATEFUL FOR THE MEDICAL REFERRAL THAT SENT HIM TO ST VINCENT'S PROFESSOR PETER CHOONG.

With the prospect of losing his right leg below the knee, the active 71 year-old was facing an uncertain future, when he arrived at St Vincent's.

While amputation is the current treatment for the heel cancer that Len was suffering from, Professor Choong instead began to investigate the possibility that 3D technology might help to not only save Len's leg, but give him the prospect of being able to walk on it again. A specifically designed titanium implant was created to replace the cancerous heel bone in Len's right foot.

'Scientific advances have allowed us to consider 3D printing of bones, and we were able to get information

from Len's foot, and use that to tell the computers precisely how big his foot is, and reproduce that using the new 3D technology,' Prof Choong said. 'Going from the possibility of an amputation, to a result where you preserve the limb is very rewarding, if you can achieve it,' he added.

Scans of Len's tumour-free left foot were used to create a mirror image, which formed the basis of the design for the 3D right heel.

Professor Choong brought in Melbourne-based implant manufacturer, Anatomics, to create a model of the implant, and then CSIRO was enlisted to print the titanium 3D heel.

This pioneering procedure is an example of the life-changing patient outcomes that flow from co-locating biomedical engineering research.

Watch media coverage of the 3D heel procedure, including interviews with Prof Choong and Len Chandler, at <http://acmd.org.au/news>.

## HOW LEN'S FOOT WAS SAVED

**1.** LEN'S CANCEROUS RIGHT HEEL (CALCANEUS) MUST BE REMOVED TO STOP THE TUMOUR FROM SPREADING.

**2.** CT SCANS OF THE LEFT FOOT ARE PRODUCED IN MIRROR IMAGE BY ANATOMICS, TO FORM A 3D PICTURE OF THE RIGHT HEEL. CSIRO USE THEIR STATE-OF-THE-ART ARCAM 3D PRINTER TO CREATE AN EXACT COPY OF THE HEEL IN TITANIUM.

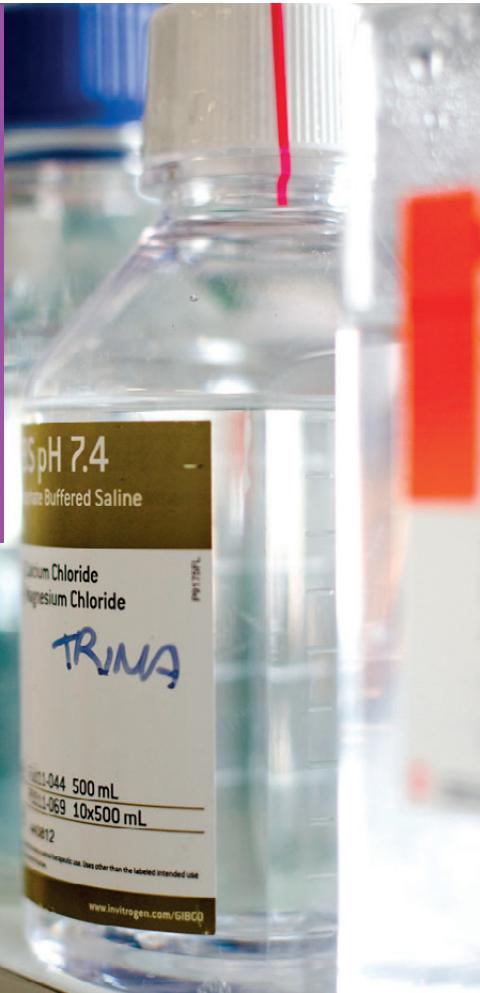
**3.** PROF CHOONG FITS THE TITANIUM HEEL TO LEN'S FOOT AND REATTACHES THE ACHILLES TENDON AND MUSCLES.

**4.** THE HEEL IS DESIGNED WITH HOLES, WHICH MAKES IT LIGHTER, AND ALSO PROVIDES ACCESS FOR TENDONS AND TISSUES TO GROW THROUGH THE IMPLANT.

'I'M MOBILE, AND THAT'S WHAT I REALLY LOVE. I CAN STILL HELP THE BOYS WITH THE BUSINESS AND I CAN STILL DO ALL THE THINGS WITH THE GRANDKIDS THAT I USED TO DO.'

- LEN CHANDLER

# RESEARCH DIRECTORATE REPORT 2014



FOR MORE THAN 120 YEARS, ST VINCENT'S HOSPITAL MELBOURNE HAS BEEN PROVIDING THE HIGHEST STANDARDS OF CARE DRIVEN BY OUR CONCERN FOR OTHERS, ESPECIALLY THOSE IN NEED.

In addition to diagnosing, treating and caring for patients across the entire health spectrum, St Vincent's is a world-leading clinical research hospital.

St Vincent's is part of Australia's largest not-for-profit Catholic health care provider, St Vincent's Health Australia, and research is undertaken in accordance with Catholic ethos and principles.

## THE TEAM

The work of the Research Directorate is led by the Director of Research, Dr Megan Robertson. The Research Directorate comprises the Research Facilitation and Research Governance units, the Experimental and Surgical Unit, the Hospital Library Service and the research facilities in the BioResources Centre.

## OUR ROLE IS TO:

- Provide leadership to the St Vincent's research community
- Facilitate research through the provision of appropriately coordinated research activities and infrastructure
- Provide advice, assistance and encouragement to all staff wishing to pursue clinical research activities
- Liaise with our associated research institute
- Assist in the establishment of the Aikenhead Centre for Medical Discovery (ACMD)

# RESEARCH HIGHLIGHTS

## RESEARCH VALET SERVICE

The Research Directorate aims to make St Vincent's a premier and preferred site to conduct sponsored clinical trials across a broad range of clinical areas. To improve support for sponsors, researchers and companies, the Research Directorate is proud to announce an exciting new initiative, the Research Valet Service.

The Research Valet Service will assist sponsors and researchers in gaining timely HREC and governance submission and approval. This innovative service is administered through the Research Directorate by the Clinical Trials Business Development Manager, Dr Wade Kruger and a team of experienced staff.

Two levels of service are available – Valet and Concierge:

### VALET

VALET INCLUDES FULL HREC SUBMISSION PREPARATION AND LIAISON THROUGH THE SUBMISSION AND APPROVAL PROCESS AT ST VINCENT'S.

### CONCIERGE

CONCIERGE OFFERS HREC PRE-REVIEW AND ONGOING LIAISON DURING HREC OR GOVERNANCE REVIEW.

A key feature of this unique service is close communication between sponsors/researchers and Research Directorate staff at each step of the process.

Sponsors or researchers will receive full approval within 30 days of HREC meeting and governance approvals will be targeted at seven days after submission of required documentation.

The service provides researchers a smooth start up with a highly competitive timeline on gaining ethics approval, providing St Vincent's a competitive edge on the global market for clinical trials.

# ACMD RESEARCH WEEK A CELEBRATION OF SUCCESS

ACMD Research Week is a celebration of the breadth of research occurring across the St Vincent's campus, with researchers and clinicians coming together from across our partner organisations to showcase their work and to network with current and potential future collaborators.

St Vincent's Institute of Medical Research (SVI) alumnus Dr David Ascher was presented with the 2014 TJ Martin Medal. The Medal, named in honour of Professor Jack Martin, former SVI Director, is awarded annually for the best MD or PhD student thesis submitted from within the St Vincent's campus in the preceding year.

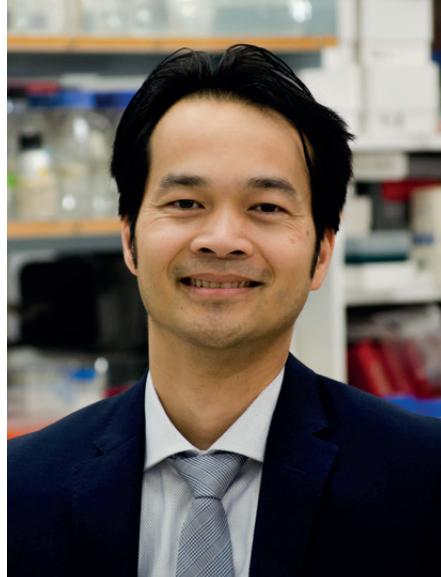
Dr Ascher received the Medal and a \$5,000 prize for his work on the structural studies of proteins involved in memory. Dr Ascher is currently doing his postdoctoral studies in the lab of Professor Sir Tom Blundell at the University of Cambridge, focusing on designing new drugs to stop the spread of cancer.

Congratulations to all award winners, who were given the opportunity to present their work in front of a multidisciplinary audience.

## ACMD AWARD WINNERS

### TJ MARTIN MEDAL

DR DAVID ASCHER



### SENIOR INVESTIGATOR ORAL PRESENTATIONS

THE PROFESSOR ANTHONY D'APICE AWARD FOR BEST SENIOR INVESTIGATOR ORAL PRESENTATION ON THE DAY  
DR CLAUDIA MARCK

#### FINALISTS

DR KEREN ABBERTON, DR SALLIE COWAN, DR MUHAMMAD AZIZ RAHMAN

### JUNIOR INVESTIGATOR ORAL PRESENTATIONS

AWARD FOR BEST JUNIOR INVESTIGATOR ORAL PRESENTATION ON THE DAY  
DR VEENA ROBERTS

#### FINALISTS

PENNY CHAPMAN, KIM CHOATE, DR THAI HONG, DR SYBIL MCAULEY, AIN ROESLEY

## NEW EXECUTIVE OFFICER OF RESEARCH

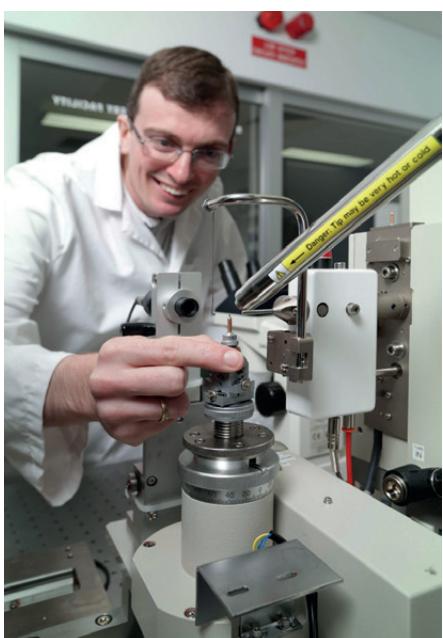
The St Vincent's Research Directorate has welcomed Dr Tam Nguyen to the role of Executive Officer of Research.

Dr Nguyen is a research bioengineer with experience at numerous teaching hospitals and medical research institutes in Melbourne and Adelaide. Dr Nguyen has a double degree in Biomedical Engineering, a PhD in Biomechanics and an MBA in general management.

Dr Nguyen's role as the executive officer is a newly expanded position that covers research ethics and governance as well as crucial areas of research development, facilitation and strategy.

The future development of the ACMD on site was important consideration for Dr Nguyen in joining St Vincent's and he hopes to use his previous research experience in biomedical engineering and administration to further facilitate research in the new precinct.

Outside his professional work Dr Nguyen has strong interests in community development and was a founding member of Hands for Hope Inc., a non-profit organisation in Victoria which is still going strong after fifteen years in operation. He currently serves on the Board of Management for Tweddle Child and Health Service and the Australian Multicultural Community Services. He is also a qualified and experienced Vietnamese interpreter.



# PROF MARK COOK RECOGNISED WITH NHMRC 'TEN OF THE BEST' AWARD



Each year the National Health and Medical Research Council recognises the outstanding achievements of just a few of Australia's best researchers by picking the top 10 projects for the year. This is based on their translation into policy, treatment development and overall impact to the field of research. For the 2014 awards, Professor Mark Cook's NHMRC Development grant entitled Development of an ambulatory epilepsy treatment device was included in this prestigious list.

Previously Prof Cook and his team had created a system to detect seizure activity and rapidly respond with a counter-stimulation to prevent the seizure progressing, however this system required further validation. The NHMRC Development

Grant program enabled the creation of more portable devices and the team produced three units capable of recording 32-channel intracranial EEG, and electrically stimulating from the same electrode array that could be used in a variety of clinical settings.

This ground-breaking research has the ultimate goal to create a device that can be implanted in people with epilepsy to prevent seizures. For the more than 225,000 people in Australia who have epilepsy – and millions more worldwide, this could be revolutionary. They could live more active, independent lives and be free of epilepsy drugs. In short: it would give them their lives back.

Below: Portable epilepsy research device.



**FOR MORE THAN  
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PEOPLE WITH EPILEPSY COULD LIVE MORE ACTIVE, INDEPENDENT LIVES AND BE FREE OF EPILEPSY DRUGS. IN SHORT: IT WOULD GIVE THEM THEIR LIVES BACK.



## A/PROF SNYDER RECOGNISED FOR A LIFETIME OF ACHIEVEMENT IN CANCER RESEARCH

### HONOURING EXCELLENCE IN CLINICAL RESEARCH AND PATIENT CARE

Professor Michael Kamm was last year awarded the highest academic honour by the Gastroenterological Society of Australia.

Prof Kamm was presented with the Distinguished Research Award as recognition of the outstanding contribution he has made to clinical research into inflammatory bowel disease and functional bowel disorders over nearly three decades.

Throughout his career, Prof Kamm has been at the forefront of clinical research into Crohn's disease and his innovative approach to proactive treatment continues to make a real difference to the many patients who suffer from it.

Most recently he led a research team that undertook the world's largest investigator-led study into the peri-operative management of Crohn's, involving 17 hospitals and 174 patients in Australia and New Zealand over five years. The Post-Operative Crohn's Endoscopic Recurrence study (known as the POCER study) looked at existing treatment strategies and drug therapies and how they work over time. Using the findings, he and his team then developed improved patient treatment strategies that result in better health outcomes and improved quality of life.

Above: Prof Michael Kamm.  
Right: A/Prof Raymond Snyder.

The award is the recognition of a lifetime of achievement; there have only been two previous recipients in the 36 years since the group was established. A/Prof Snyder dedicated his entire professional life to the treatment of cancer. When he began as an oncologist at St Vincent's in 1977, he was one of only three or four specialist oncologists nationwide.

As the number of oncologists has grown over the past 40 years, so too has the body of knowledge in the treatment and prevention of cancer. During that time, A/Prof Snyder became one of Australia's most respected clinical trial researchers, specialising in breast cancer.

A/Prof Snyder was one of the founders of ANZBCTG in 1977 and since its inception was a member of the Scientific Advisory Committee, including a nine year stint as Chair of the Board.



# PATIENT IN FOCUS

## HEPATITIS C



### ELAINE FITT IS OVER THE MOON FOLLOWING HER SEEMINGLY MIRACULOUS CURE FROM THE DEBILITATING VIRUS SHE ENDURED FOR FOUR DECADES.

Elaine contracted Hepatitis C from a blood transfusion following the birth of her first daughter in 1975, but was not diagnosed for 33 years.

'I was stunned and went into shock,' says Elaine. 'I was also a little frightened as I didn't know much about Hepatitis C at the time. All those years of symptoms started making sense and what followed was a real rollercoaster journey for me.'

Hepatitis C affects an estimated 230,000 people in Australia. It's the most common reason for liver transplantation and a leading cause of liver cancer. Most patients have no symptoms, meaning that diagnosis is frequently delayed for many years, often until the disease has progressed to the advanced stage.

'After my diagnosis I undertook the conventional Hepatitis C treatment, involving weekly injections, and the side effects actually made me feel worse. It was almost impossible to keep up with my full time job and enjoy quality time with my family.'

Thankfully all that changed in September 2013 when Elaine took part in a clinical trial at St Vincent's. After only 12 weeks on new anti-viral medications the virus was cured entirely, giving Elaine a completely new lease on life.

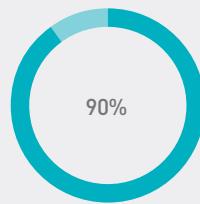
Director of Gastroenterology Prof Alex Thompson couldn't be more pleased with Elaine's results and those of other trial participants. 'Elaine's experience really demonstrates the extraordinary medical advances and potential that this new treatment represents,' he says.

'Known as direct acting antivirals, or DAA, the medications have a 90+ per cent cure rate. They take Hepatitis C from a life-threatening chronic disease to one that can be cured – saving hundreds of lives and helping reverse the growing burden of liver disease in Australia.'

Elaine is keen to see the drugs listed on the PBS and believes a change in community attitudes to people living with Hepatitis C is also important.

'I'm enjoying my newfound energy with my family and beautiful grandson, at work and at the gym, where I'm working on getting my fitness back. I'd now like to help educate the broader community about Hepatitis C, so we can put a stop to the stigma that's often unfairly associated with it. Ultimately I'm looking forward to seeing this amazing treatment listed on the PBS as soon as possible, so it can transform lives.'

**12 WEEKS ON NEW ANTI-VIRAL MEDICATION AND THE VIRUS WAS CURED ENTIRELY.**



THE MEDICATIONS HAVE A **90%** CURE RATE.

**'ALL THOSE YEARS OF SYMPTOMS STARTED MAKING SENSE AND WHAT FOLLOWED WAS A REAL ROLLERCOASTER JOURNEY FOR ME.'**

**- ELAINE FITT**

# NEW RHEUMATOLOGY CLINIC OPEN FOR BUSINESS

The Rheumatology department has a bright, light and modern clinic that opens up a new world of treatment and research opportunities, thanks to the generosity of a St Vincent's patient.

Premier Dr Denis Napthine officially opened the state-of-the-art Department of Rheumatology Clinic in September. The 'one-stop shop' clinic has been designed to foster and facilitate expert clinical diagnosis, collaborative research and the very best in patient care.

The development was made possible by the longstanding support and ongoing generosity of David Mackintosh and his wife Kathy. David and Kathy funded the new facility as a gesture of appreciation for the care and support provided to them by A/Prof Laurie Clemens and A/Prof Evange Romas over the past twenty-five years, during which time David has received treatment for severe arthritis.

The main focus of the clinic will be rheumatoid arthritis, a severe autoimmune/inflammatory condition affecting nearly 100,000 Victorians. The condition is characterised by progressive joint inflammation and culminates in joint destruction, deformity, functional loss and reduced quality of life. It's also associated with increased cardiovascular disease and mortality rates.

The new clinic is also the Australian base of the Australian Scleroderma Cohort Study (ASCS), a multi-centre national study with 13 participating hospitals around Australia.



Above: Director of Rheumatology A/Prof Evange Romas (left) and Premier Dr Denis Napthine officially open the new Rheumatology department in September 2014.

## NHMRC FUNDING SUCCESS

St Vincent's Hospital Melbourne and its campus partners were very successful in National Health and Medical Research Council funding announced in October 2014.

St Vincent's researchers secured \$10.1 million, which will contribute to research here on campus with the aim of driving innovation that will lead to medical breakthroughs.

Taking into account funding secured by our collaborators, who together make up the Aikenhead Centre for Medical Discovery (ACMD), over \$36.9 million was injected into the Eastern Hill precinct.

In a year where less than 20 per cent of applications were successful, this success highlights the world class research that is occurring on the campus.

**\$10.1  
MILLION  
OF FUNDING  
WAS SECURED  
BY ST VINCENT'S  
RESEARCHERS.**



OVER \$36.9 MILLION  
WAS INJECTED  
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HILL PRECINCT.



THIS SUCCESS  
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# AWARDS

## ACADEMIC UNIT FOR PSYCHIATRY OF OLD AGE

DR SAMANTHA LOI

Early Career Psychiatrist Fellowship,  
World Psychiatric Association

## ST VINCENT'S CENTRE FOR NURSING RESEARCH

PROFESSOR LINDA WORRALL-CARTER

Fellowship, Cardiac Society of Australia

DR RAHMAN CHARLES

C Shepard Science Award,  
U.S Department of Health  
and Human Services

## EMERGENCY MEDICINE

DR STEPHEN PARNIS

Fellowship of the Australian Medical  
Association (AMA)

Elected Vice President of the AMA

DR SANDRA NEATE AND

PROFESSOR GEORGE JELINEK

Edward Brentnall Award for most  
significant publication in the discipline  
relating to public health or disaster  
and emergency medicine, Australasian  
College for Emergency Medicine

## GASTROENTEROLOGY

DR DAVID OEHME

Peter Ryan Prize

## HAEMATOLOGY

DR HANG QUACH

Myeloma Australia HAA prize

## MENTAL HEALTH

PROF DAVID CASTLE

Vice Chancellor's Staff Engagement  
Award, University of Melbourne

## NEUROSURGERY

DR UDAYA SENEVIRATNE

Young Investigator Travel Award,  
American Equilibration Society  
annual scientific meeting

DR IAN WILSON

UCB Clinical Epilepsy Fellowship,  
Epilepsy Society of Australia

DR JOCELYN CHU

Merit Award, Epilepsy Society  
of Australia

## NURSING RESEARCH UNIT

A/PROF KAREN-LEIGH EDWARD,  
JO-ANN GIANDINOTO, KAROLIN KING,  
CAROLYN MOORE

2014 Multigate Medical Education Award

## O'BRIEN INSTITUTE

MR DAMIEN HERNANDEZ

Australia Travel Award,  
National Stem Cell Foundation

First prize Student Poster,  
University of Melbourne

DR LIPI SHUKLA

Cure de Cancer Scholarship, Royal  
Australasian College of Surgery

MR KAM TRUONG

First prize in the post  
PhD – HDR seminar series,  
Australian Catholic University

MR AARON DINGLE

Best student oral presentation,  
Australian Society of Biomaterials  
and Tissue Engineering

## ONCOLOGY

DR BIANCA DEVITT

Victorian Cancer Agency Scholarship

DR HEATHER LANE

Faculty of Medicine postgraduate  
scholarship, University of Melbourne

DR TIM CLAY

Faculty of Medicine postgraduate  
scholarship, University of Melbourne

## RHEUMATOLOGY

DR MANDANA NIKPOUR

Early Career Fellowship, National  
Health and Medical Research Council  
of Australia (NHMRC)

Best abstract, Systemic Sclerosis  
World Congress

DR ALANNAH QUINLIVAN

Helen Moran Prize for best abstract,  
Australian Rheumatology Association  
Annual Scientific Meeting

DR YANJIE HAO

Best scientific poster, Australian  
Rheumatology Association Annual  
Scientific Meeting

DR KATE FRANKLYN ROCHE

Travel scholarship for original research  
abstract, Australian Rheumatology  
Association Annual Scientific Meeting

## VICTORIAN CYTOGENICS

DR SHUH YING TAN

Clinical PhD Scholarship,  
Leukaemia Foundation of Australia

# RESEARCH STATISTICS

	NUMBER OF PUBLICATIONS	903
	NUMBER OF PHD STUDENTS	96
	OTHER HIGHER DEGREE RESEARCH	50
	CONFERRED HDR	30
	BOOKS PUBLISHED	4
	BOOK CHAPTERS PUBLISHED	19
	RESEARCH INCOME RECEIVED	\$18.3M
	NHMRC AND ARC GRANTS*	\$36.9M

\*Total awarded for the duration of the grant to our researchers and their collaborators.

# RACE TO IMPROVE TRANSPLANT FUNCTION A MARATHON NOT A SPRINT



# 10 → 15 YEARS

IS HOW LONG A  
TRANSPLANTED  
KIDNEY LASTS.



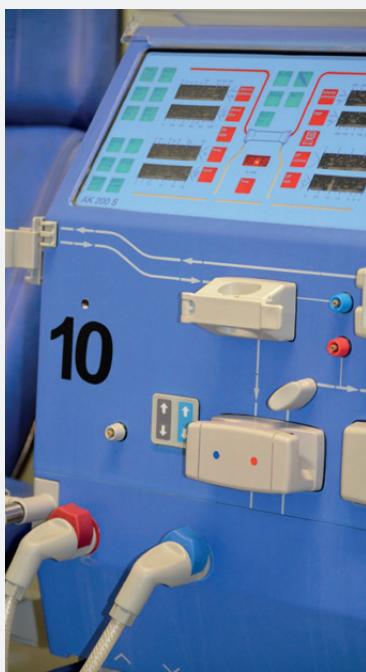
DR DWYER HAS BEEN COLLABORATING WITH MONASH INSTITUTE OF PHARMACEUTICALS TO PRODUCE AN ADENOSINE-LIKE COMPOUND.



THIS COMPOUND MAY SOON BE ABLE TO BE DEVELOPED INTO A FORM THAT IS CLINICALLY APPLICABLE.

'THE MAIN REASON I RUN IS FOR MY HEALTH, NOT ONLY MY PHYSICAL BUT MY MENTAL HEALTH AS WELL.'

- DR KAREN DWYER



## POUNDING THE PAVEMENT FOR HOURS ISN'T EVERYONE'S IDEA OF RELAXATION, BUT FOR NEPHROLOGIST DR KAREN DWYER, IT'S MORE THAN A CHANCE TO KEEP FIT AND UNWIND.

It's also a time to reflect on how her medical research projects are going. 'The main reason I run is for my health, not only my physical but my mental health as well.'

'It's my time to think. I think about lots of things, but I often keep coming back to my work. It's amazing what will come to me. The solitude gives me a chance to see things in a new perspective and I'll arrive home with a new idea on the approach we should take.'

Solitude is something this busy mother of four can't readily find elsewhere!

And there's a certain synergy at play in Dr Dwyer's life, that while her passion is distance running, there's a marathon element to her professional passion – to improve long-term life prospects of people who've had a kidney transplant.

Despite the increasing success of kidney transplants, the ultimate goal of a patient being well for the rest of their life hasn't yet been realised: a transplanted kidney lasts between 10 and 15 years.

Dr Dwyer is working to improve kidney transplant function and the longevity of kidney transplants by looking at ischemia, a restriction of blood supply to the donated organ.

'The process of ischemia can't be avoided because the transplant process involves interrupting blood circulation. The whole process of removing the kidney from the donor and transferring to the recipient incites a lot of inflammation. This inflammation leads to fibrosis and scarring, which then self-perpetuates. Once you have scarring, this leads to high blood pressure, which leads to loss of the kidneys.'

Restoring blood flow increases the rate of inflammation and Dr Dwyer is looking at two molecules that may hold the secret to stopping fibrosis of the donated kidney; adenosine and follistatin.

'Adenosine is a molecule that is produced innately in the human body and is a stopping mechanism for inflammation. If adenosine can be augmented and administered to very specific areas of the body, it could prevent further damage to that area, in this case the kidney.'

Excitingly, Dr Dwyer has been collaborating with Monash Institute of Pharmaceutical Sciences to produce an adenosine-like compound that may soon be able to be developed into a form that is clinically applicable.

'Adenosine reacts with receptors everywhere in the body so we have to have something that is very specific and targeted to the kidney,' Dr Dwyer says. 'The results so far are very promising. The compound has shown good protection against significant injury if we do introduce ischemia.'

Dr Dwyer is also working closely with Professor David de Kretser from Monash Institute of Medical Research on expanding his significant work on activin and follistatin biology in inflammation into the context of kidney transplantation.

'The whole process of surgery incites inflammation and we see that during this time the production of a protein called activin increases significantly, which greatly contributes to the progression of fibrosis. The natural blocker of activin is follistatin and Prof de Kretser has previously found by looking at lung transplant recipients that if we can minimise acute inflammation associated with the transplant process, we can lessen the development of fibrosis.'

'There are important observations that we are making now that would be relevant to why someone has developed kidney failure in the first place, because this process of fibrosis is very generic. If we can stop fibrosis in transplanted kidneys, we could potentially also apply the same process to people who are developing kidney disease, and they might never need a transplant!'

It's a goal patients would certainly welcome. It's also a long-term prospect that suits a researcher who revels in marathons, and has recently begun competing in Ironman events.

# THE SPHINX STUDY

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## UNLOCKING A MODERN DAY

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# RIDDLE



**1500**  
PATIENTS' DATA  
COLLECTED,  
PLACING THE  
STUDY AMONGST  
THE LARGEST  
WORLDWIDE.



ONE OF THE HALLMARKS OF SCLERODERMA IS THICKENING OF THE SKIN THROUGH FIBROUS TISSUE, WHICH BEGINS IN THE PERIPHERY OF THE HANDS AND FEET, BEFORE MOVING INTO THE ARMS AND LEGS AND IMPAIRING FUNCTION.

'THE EARLY CAREER FELLOWSHIP GRANT ALLOWS ME TO CONTINUE LOOKING AT RISK FACTORS AND PREDICTORS OF RISK FACTORS WITH THE HOPE OF IMPROVING EARLY DIAGNOSIS OF PAH.'

- DR MANDANA NIKPOUR



## AS A FIRST YEAR RHEUMATOLOGY REGISTRAR, DR MANDANA NIKPOUR CARED FOR A YOUNG WOMAN WITH SEVERE LUPUS.

Despite the best efforts of Dr Nikpour and her team, the patient died, leaving a five year-old son without a mother. Dr Nikpour found this experience very distressing, inspiring her to dedicate her career to helping patients with debilitating autoimmune diseases such as lupus and scleroderma.

After completing her PhD in epidemiology and biostatistics at University of Toronto, Dr Nikpour has been able to combine her passion for her patients with a love of numbers as a clinician researcher.

Dr Nikpour is leading the Australian Scleroderma Cohort Study (ASCS), a multi-centre nationwide collaboration across all disciplines in 13 centres around Australia. The study is ongoing, collecting data on 1500 patients, placing the study amongst the largest worldwide.

'Scleroderma is a multi-organ disease, notable for both the morbidity and mortality it inflicts in patients. Even though it's rare, it packs a mean punch. What it lacks in frequency, it makes up for in the impact it has on a patient's life,' Dr Nikpour says.

One of the hallmarks is thickening of the skin through fibrous tissue, which begins in the periphery of the hands and feet, before moving into the arms and legs and impairing function.

The two major causes of mortality are heart and lung complications, in particular Interstitial Lung Disease (ILD), a scarring of the lungs similar to that of the skin, and Pulmonary Arterial Hypertension (PAH), an increased pressure in the vasculature of the lungs which puts a lot of strain on the heart.

'Despite all current therapies, the median survival of PAH is three to four years. Prior to using these advanced therapies, median survival was only around one and a half years.'

The success of ASCS has allowed Dr Nikpour and her team to secure a major NHMRC grant for a clinical trial looking at a highly contentious area in the treatment of scleroderma, anticoagulation.

'If you look at lung biopsies, you can see that the blood vessels are constricted, with the walls much thicker than normal. Within these tiny vessels right at the periphery of the lungs are tiny blood clots.'

'Advanced therapies target the thickening of these vessels, but none address the clotting. Over the years, some physicians have chosen to thin the blood, while others have chosen not to due to potential side effects.'

'Using data from the ASCS we were able to conduct an observational study, which saw that even when you adjust for other factors, those who happen to be anti-coagulated at physician discretion had better survival.'

'The ACS has generated a very important hypothesis for developing a clinical trial. From this preliminary data we were able to make a case that this issue needed resolution and that the only way to do so is through a randomised controlled trial.'

The SPHINX study, as it is known, is a five year study, with the end point being a composite of clinical worsening and mortality. It will be the first multi-centre trial in anticoagulation in scleroderma ever.

'We have now started recruiting and ensuring ethics and regulatory approvals are in place. We are well under way in all sites across Australia.'

'The use of anti-coagulants has been acknowledged as high priority for addressing. This study is a unique one in that a positive or negative outcome will be very informative.'

In addition to securing sizeable NHMRC program funding, Dr Nikpour also received an Early Career Fellowship grant from the NHMRC, which allows her to continue her research in scleroderma, looking at risk factors and early diagnosis of PAH.

'This funding allows me to continue looking at risk factors and predictors of risk factors with the hope of improving early diagnosis of PAH. PAH can be silent for a long time, by the time patients get breathless they are already suffering from severe hypertension. Early diagnosis is the key.'

# SURVIVOR MEDICINE

## TREATING THE MEDICAL ORPHANS



**DR RAMIN SHAYAN'S INTEREST IN MEDICINE, AND IN CANCER, BEGAN WHEN HE WAS A TEENAGER, WHEN HIS 30 YEAR-OLD UNCLE WAS DIAGNOSED WITH A BRAIN TUMOUR.**

But if it was family tragedy that got him into medicine, it was the possibilities of microsurgery that fired his imagination.

'Plastic surgery has always looked after the medical orphans – the patients no-one else wanted to own,' he says, 'We call it survivor medicine – it's about not only getting patients over their condition, but as close as possible, back to normal life.'

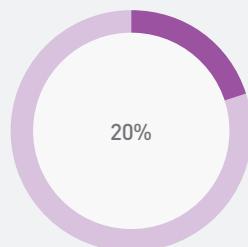
Better screening and improved treatments mean we're slowly winning the war on cancer, with a 20 per cent drop in cancer mortality since 1982. More than 65 per cent of Australians diagnosed with cancer are now likely to survive beyond five years.

A Consulting Plastic Surgeon with the Reconstructive Plastic Surgery Unit at St Vincent's Hospital and Research Fellow at O'Brien Institute, Mr Shayan says the often hidden side of that good news story is an increasing number of people now living with debilitating side effects of their treatment.

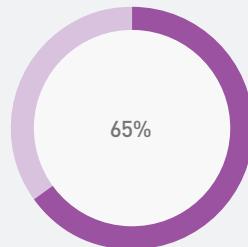
He cites the example of lymphedema, when a patient's body doesn't drain properly, after the lymph nodes have been removed as part of treatment for cancer. For patients, the swelling, discomfort and disfigurement can be very distressing, but traditional medicine has few answers.



## ONE IN EIGHT WOMEN WILL GET BREAST CANCER THROUGHOUT THE COURSE OF THEIR LIFE.



20% DROP IN CANCER MORTALITY SINCE 1982.



MORE THAN 65% OF AUSTRALIANS DIAGNOSED WITH CANCER ARE NOW LIKELY TO SURVIVE BEYOND 5 YEARS.

'WE CALL IT SURVIVOR MEDICINE – IT'S ABOUT NOT ONLY GETTING PATIENTS OVER THEIR CONDITION, BUT AS CLOSE AS POSSIBLE, BACK TO NORMAL LIFE.'

– DR RAMIN SHAYAN

Microsurgery, on the other hand, is offering some relief to this growing group of cancer survivors.

'There is still an overriding consensus that everything goes back to normal after cancer, but that is not the case,' Mr Shayan observes.

Mr Shayan is the leader of the O'Brien Institute's Lymphatic and Regenerative Surgery Group, which conducts research into lymphatics and injury caused by radiotherapy and is working to uncover important cellular mechanisms underlying this common clinical problem.

The range of cancers for which radiotherapy is being used is ever expanding. There is an unavoidable dose exposure that occurs in surrounding normal cells. This exposure can permanently damage healthy tissue, resulting in scarring, pain and lymphedema, in turn leading to significant disability, impairment of quality of life, infection, and secondary disease.

'Essentially cancer treatment does come at a cost, there are a number of side effects,' Mr Shayan explains. 'In the days when patients had abysmal survival rates for cancer, treating these side effects of treatment was not a major focus.'

'One in eight women will get breast cancer throughout the course of their life but 90 per cent will now survive longer than five years. This means there is a huge cohort of people who are breast cancer survivors living with these side effects, whether they be psychological, effects on heart from chemotherapy, effects on the skin from radiation, as well as the lymphatic system,' Mr Shayan says.

'As clinicians this is what we deal with on a day to day basis, so the logical thing to do is to work out ways to treat that better.'

'The next challenge for us is to be able to treat these side effects to help people really get over their cancer. The aftermath has traditionally been ignored in the public system, with the huge majority of funding going to primary cancer. We hope to see a rise in investment in this research as survivorship increases.'

Mr Shayan is studying how molecular biology and stem cells can help reverse the side effects of cancer treatment by developing in-vitro models that mimic the dosage regimes administered to cancer patients. His team is also conducting a clinical trial looking at a surgery that relocates fat from other parts of the body not exposed to radiotherapy and studying how it changes cells in the affected area.

'Once the cell gets that signal it proliferates – understanding this process will help us to unlock the future.'

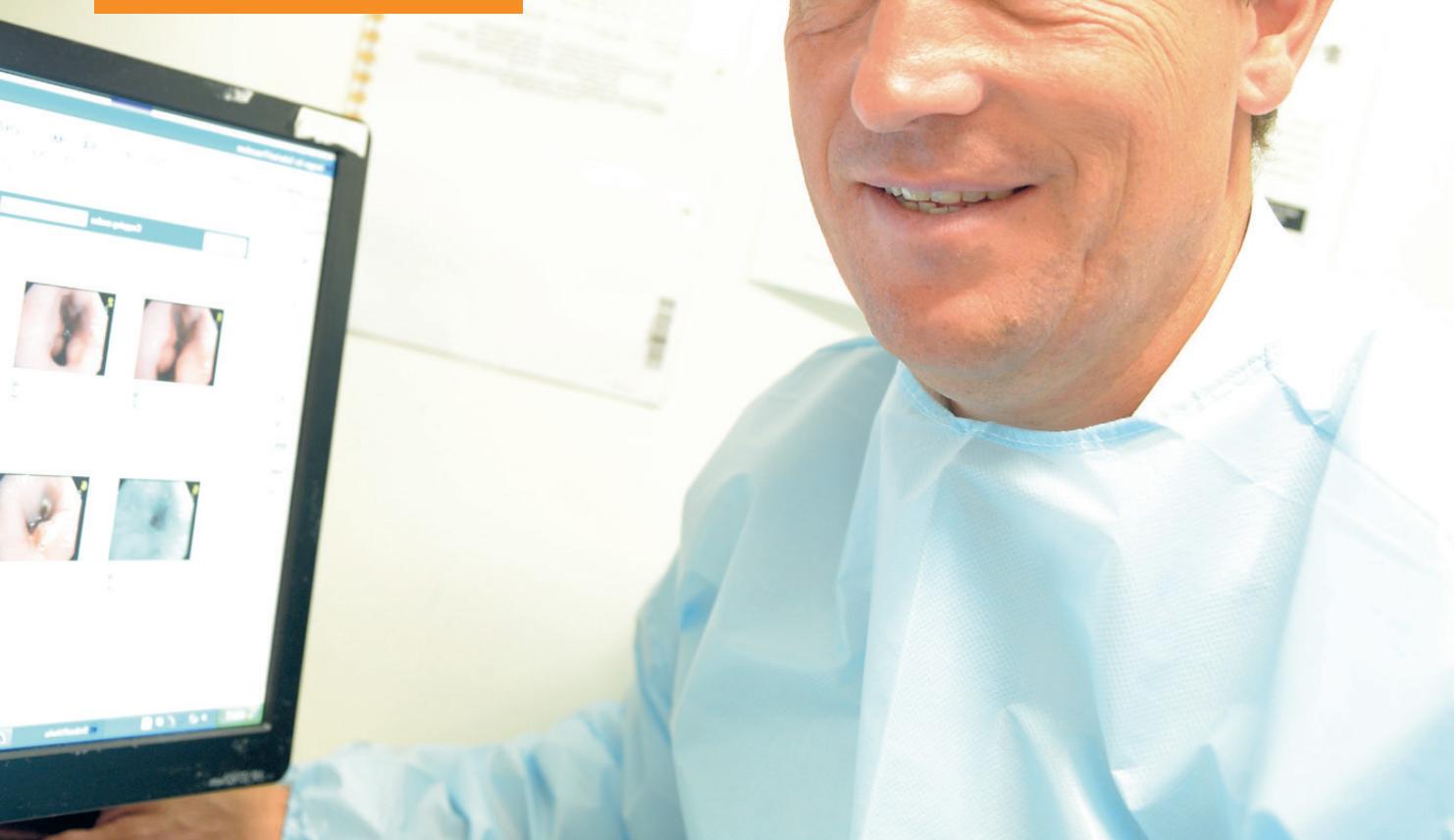
'Eventually we hope to be able to replace surgical intervention with stem cell treatment, but there's a gulf between treatment now and the gold standard of tissue engineering,' Mr Shayan says. 'I believe this surgery is that middle ground.'

Mr Shayan's work is supported by the Australian Catholic University as part of its AORTEC (Australian Catholic University/O'Brien Institute Reconstructive Tissue Engineering Centre) Collaboration, with further funding from NHMRC and philanthropic grants.

'There is currently a gap in the public system in treating radiotherapy and lymphedema injury and my hope is that we can develop novel treatments that will allow more people, particularly those from disadvantaged backgrounds, to fully recover from their cancer ordeal and live a long and happy life.'



# NEW TECHNIQUES REVEAL PREVIOUSLY HIDDEN CANCERS



AS A YOUNG REGISTRAR COMPLETING HIS GASTROENTEROLOGY TRAINING DURING THE 1990'S, DR ANDREW TAYLOR WAS BLESSED WITH PLENTY OF POSITIVE ROLE MODELS, INCLUDING MENTOR A/PROF PAUL DESMOND.

'I was lucky enough to be trained by fantastic gastroenterologists, including A/Prof Desmond and Dr Katrina Watson, who were not only great doctors, but great people,' Dr Taylor says.

Dr Taylor completed his training at St Vincent's, before heading overseas to Scotland to develop his range of endoscopic skills, before completing an MD research degree under A/Prof Desmond, looking at innovation in endoscopy.

The support and encouragement that he received has propelled him forward as he has become a pioneer in advanced endoscopic techniques.

As a leader in his field, Dr Taylor's research focus is on evaluating new endoscopic technologies. He is currently conducting a clinical trial that is improving the survival rate for patients suffering from one of Australia's fastest growing cancers, oesophageal adenocarcinoma, and its known precursor, Barrett's Oesophagus.

Barrett's Oesophagus is the main risk factor to the development of oesophageal cancer and is quite common, appearing in two to three per cent of the population, predominately in men.

## WHEN OESOPHAGEAL CANCER IS DIAGNOSED DUE TO PRESENTING SYMPTOMS, SUCH AS INABILITY TO SWALLOW, THE CHANCE OF BEING CURED IS ABOUT 10%–20%



AS A LEADER IN HIS FIELD, DR TAYLOR'S RESEARCH FOCUS IS ON EVALUATING NEW ENDOSCOPIC TECHNOLOGIES.

## 200 PATIENTS HAVE BEEN TREATED FROM AROUND VICTORIA WHO WOULD HAVE PREVIOUSLY NEEDED AN OESOPHAGECTOMY.

'IT IS SATISFYING TO BE ABLE TO CONTRIBUTE TO THE KNOWLEDGE BASE OF THIS DISEASE IN AN AUSTRALIAN CONTEXT. IT IS ALSO SATISFYING FROM A CLINICAL POINT OF VIEW TO BE ABLE TO BE AT THE CUTTING EDGE OF REAL CHANGE IN MANAGEMENT OF THIS DISEASE.'

— DR ANDREW TAYLOR

'The treatment of dysplasia in Barrett's has changed dramatically in the past 10 years,' Dr Taylor explains. 'There are now new endoscopic techniques that remove the need for an oesophagectomy, a major surgical procedure that carried with it substantial morbidity and mortality.'

'When oesophageal cancer is diagnosed due to presenting symptoms, such as inability to swallow, the chance of being cured is about 10 to 20 per cent. If it is picked up early by diagnosing Barrett's at an early stage and monitoring it is very treatable, with a 98 per cent success rate via endoscopy.'

Dr Taylor has been a key player in developing St Vincent's as the leading centre in Victoria for treating oesophageal cancer using halo radiofrequency ablation, an endoscopic technique that burns off abnormal cells using radio energy.

So far, 200 patients have been treated from around Victoria who would have previously needed an oesophagectomy. Dr Taylor has been able to study the outcomes of these patients and has published several papers looking at the best method for finding small cancers.

'Advances in technology have allowed expert endoscopists to better recognise subtle and small cancers and areas of dysplasia in the oesophagus. We are now comparing different methods to work out the best way to see abnormal areas.'

'After a positive biopsy, the next step is finding where exactly the cancer is in order to remove it. We've published data on the fact that it is possible for experts using the best technology to find things not found in general endoscopic practice.'

An area of particular interest to Dr Taylor going forward is the interpretation of Barrett's Oesophagus among pathologists. He is collaborating

with pathologist Prof Richard Williams to address the key areas of controversy and uncertainty surrounding the management of low grade dysplasia.

'Some recent studies have shown that low grade dysplasia has a high chance of becoming worse and should be treated early using endoscopic methods. Other research suggests that it is innocuous and need only be monitored.'

'We have presented data that suggests that in cases where it appears low grade dysplasia has quickly resulted in oesophageal cancer, worse areas of dysplasia have been missed in the biopsy.'

'We want to set up a centre to look at patients from around Australia who have been diagnosed with low grade dysplasia from outside and then getting expert pathologists to look at that and determine the accuracy of pathological interpretation.'

'Expert endoscopists will then look to determine the rate of missed lesions. These findings will give us a baseline to better understand reasons for conflicting results. We can then determine the likelihood of progression for low grade dysplasia and how often it progresses using real outcomes. We can then feed that into treatment and inform guidelines.'

Dr Taylor's findings are reflected in his contribution to the first clinical guidelines from the Cancer Council into oesophageal adenocarcinoma, something he finds extremely rewarding.

'It is satisfying to be able to contribute to the knowledge base of this disease in an Australian context. It is also satisfying from a clinical point of view to be able to be at the cutting edge of real change in management of this disease.'



# REGROWING CARTILAGE FOR PAIN FREE MOVEMENT



**CLAUDIA DI BELLA  
REMEMBERS THE  
DAY SHE ARRIVED IN  
MELBOURNE IN 2009  
FROM HER HOME IN  
BOLOGNA, ITALY.**

'I just loved it from the first second I arrived here,' she says. 'I remember putting my foot down on Melbourne ground and I just had goose bumps. Seriously, it was just like 'I belong here'. It was incredible. I still get teary every time I think about it. I love Italy, but I felt this was just the place where I had to be.'

Dr Di Bella, an orthopedic surgeon, knew no-one and didn't speak English. 'I knew 'the cat is on the table' and 'the window is open', she says. 'This was very basic English that you learn at school.'

Dr Di Bella grew up in Catania on the east coast of Sicily, in southern Italy, where she studied medicine. At 19 she moved to Bologna in the country's north and continued her studies at Rizzoli Hospital, a large facility specialising in orthopaedics. It was here that she began studying bone and cartilage tissue engineering.

She is now a research fellow at Melbourne University (Department of Orthopaedics) working in tissue engineering research for the regeneration of musculo-skeletal tissues including not only bone and cartilage but also muscle, tendon and nerves.

## REMOVING THE NEED FOR MULTIPLE SURGERIES, THIS WILL BE DONE WITH ONE SINGLE OPERATION



DR DI BELLA'S WORK FOCUSES ON MAKING BONE OR CARTILAGE USING NEW TECHNIQUES SUCH AS STEM CELL ENGINEERING.



THERE ARE ETHICAL RESTRAINTS TO STEM CELL USE.

'AT THIS POINT IN TIME, THERE ARE NO TREATMENTS AVAILABLE THAT ALLOW REGENERATION ON INJURED CARTILAGE, AND MANY PATIENTS, USUALLY YOUNG, WILL HAVE TO COPE WITH PAIN FOR A LONG TIME.'

- DR CLAUDIA DI BELLA



Dr Di Bella is working in a program called 'Advanced Limb Reconstruction' which is exploring new ways of reconstructing cartilage defects using 'bio-scaffolds' and stem cells. The project is a collaboration with the University of Wollongong in New South Wales.

Dr Di Bella's work focuses on making bone or cartilage using new techniques such as stem cell engineering. She works mainly with bone and soft-tissue tumors to improve the regeneration of tissue after cancerous cells have been removed and the bone needs replacing. 'When a tumor is taken out part of the bone is taken out too, so we have to rebuild that bit,' she says. 'There are different ways. Some don't work as well as they could.'

'We are using adult stem cells. We can take them from blood, from skin, or from bone marrow. We then grow the cells in the lab, and we make the cartilage that is needed to substitute for the cartilage injury, and what's been created in the lab is plugged into, say, a knee.'

There are ethical restraints to stem cell use. 'We still cannot use stem cells in humans for this, at the moment. I can take cells from you and put them in the lab and work on them and maybe

use them in animals for experiments but we still don't have the ethical OK to put them back into you. Other cells yes, but not stem cells.'

Dr Di Bella says the research will deliver considerably positive outcomes for patients. 'This research is focused on treating cartilage injuries, including arthritis,' she says. 'At this point in time, there are no treatments available that allow regeneration on injured cartilage, and many patients, usually young, will have to cope with pain for long time.'

'This will later develop into arthritis, for which the only effective treatment is joint replacement. Our aim is to restore the integrity of joint cartilage using tissue engineering, in order to obtain healthy and mature cartilage tissue that can last for a long time.'

'Removing the need for multiple surgeries, this will be done with one single operation, which is much safer for the patient.'

'The path is still long, as we are starting with small articular defects, but it has the potential to be used for larger and more diffuse joint disease, such as arthritis. That would improve the lives of tens of thousands of people in Australia.'



# PROVIDING A COMPASSIONATE ALTERNATIVE TO ED FOR PALLIATIVE CARE PATIENTS



AS A CHILD IN THE  
NETHERLANDS,  
DR CLAUDIA MARCK WAS  
COMFORTABLE AROUND  
DOCTORS, HOSPITALS  
AND PATIENTS.

Her father was a surgeon and her mother worked in psychiatry as a geriatrician. 'I would visit my dad in hospital at lunchtime so I'm quite familiar with a hospital environment and medical language,' she says. 'Public health has always interested me.'

Dr Marck studied psychology in the Netherlands and did a research masters. 'I was encouraged to go overseas to get research experience,' she says. In 2008 that led her to Melbourne University for nine months where she met her partner – also a researcher, in neuroscience, now at Monash University. 'He convinced me to stay in Australia.'

She holds a master's degree in clinical psychology and neuroscience and is a PhD candidate at Erasmus MC in Rotterdam. She has completed her PhD at a Dutch university.

Dr Marck is a research fellow at the Emergency Practice Innovation Centre at St Vincent's Hospital where she is involved in a range of research projects mainly organ donation and palliative care.

Her focus for the past few years has been helping to improve the experiences of patients and their families who come to the hospital's ED and Intensive Care Unit while taking into account the work environment for clinicians.

## 90% OF PATIENTS WITH CANCER WHO PRESENT TO THE ED WILL BE ADMITTED TO HOSPITAL.

'MANY PATIENTS WITH ADVANCED CANCER WILL PRESENT TO OUR EMERGENCY DEPARTMENT FOR COMPLEX AND SEVERE PAIN, AND THIS CAN BE TREATED BETTER AND QUICKER WITH THE HELP OF THIS CONSULT SERVICE.'

- DR CLAUDIA MARCK



FEEDBACK FROM PATIENTS WITH ADVANCED CANCER HIGHLIGHTED A NEED FOR EXPANDED SERVICES WITHIN THE ED.



DR MARCK WAS PART OF A RESEARCH TEAM CONDUCTING FOCUS GROUPS AND INTERVIEWS WITH CLINICIANS LOCALLY AS WELL AS OVERSEEING A LARGE NATIONAL SURVEY WITH ED CLINICIANS.



EMERGENCY CLINICIANS IN OUR HOSPITAL CAN BENEFIT FROM A 24/7 PALLIATIVE CARE SPECIALIST CONSULT PARTICULARLY WHEN IT COMES TO COMPLEX PAIN MANAGEMENT.

'We feed back to the clinicians how the patients and carers have experienced the care they received in hospital and try to improve both sides of the story.'

Dr Marck collated feedback from patients with advanced cancer about their experience in the emergency department which highlighted a need for expanded services within the ED.

'They would view the ED as a safety net, a last resort,' she says. 'They would come to access an oncologist or palliative care. The ED is often not a great place to be for patients who are close to the end of life, especially in the middle of the night because there are a lot of other patients around, and some can be drug or alcohol affected.'

She says around 90 per cent of patients with cancer who present to the ED will be admitted to hospital. Often there's a wait for a bed to become available. 'So there's a lot of waiting and while you're waiting there are a lot of things happening around you that are not particularly relaxing. So it can be a stressful experience. During the day it's a similar experience but at night it would be worse.'

Dr Marck interviewed emergency clinicians, oncologists and palliative care physicians and nurses in hospital and in the community to work out better pathways of care.

Dr Marck was part of a research team conducting focus groups and interviews with clinicians locally as well as overseeing a large national survey with ED clinicians many of whom, she says, were frustrated because they were limited in the way they could care for the patient.

Several possibilities have emerged: one is having a palliative care physician in the ED more regularly. Another is breaking down the roadblocks to patient information. She says more effective communication between different departments in the hospital would help to deliver smoother treatment.

Also the more frequent use of advanced care planning for people facing a potentially life-limiting illness was suggested by clinicians involved in the research.

She says the research conducted with specialists in palliative care, emergency medicine and oncology led to a better understanding of the difficulties for those jointly caring for a patient with advanced cancer who presents to the emergency department with new symptoms or exacerbations of existing symptoms.

'One of the main outcomes of the research was that communication between the departments needed to improve for better, more efficient care for patients.'

'The joint research undertaken at St Vincent's has certainly improved the communication between the ED and palliative care teams in our own hospital, leading to better care of patients with cancer presenting to the emergency department. Emergency clinicians in our hospital can benefit from a 24/7 palliative care specialist consult particularly when it comes to complex pain management for instance, but our results showed that this was not known to many clinicians in ED.'

'Many patients with advanced cancer will present to our Emergency Department for complex and severe pain, and this can be treated better and quicker with the help of this consult service. The presentations of palliative care specialists during Emergency Department staff meetings has improved the use of this palliative care service and the communication between these departments in general.'



**ST VINCENT'S ACKNOWLEDGES  
THE TRADITIONAL OWNERS OF  
THIS LAND, THE WURUNDJERI  
PEOPLE AND ALL THE MEMBERS  
OF THE KULIN NATIONS.**

We pay our respects to their Elders, past and present. St Vincent's is Victoria's largest metropolitan provider of Aboriginal and Torres Strait Islander healthcare. We continue to develop our relationship with the Koori community and are proud to be acknowledged as a centre of excellence in healthcare for Indigenous Australians.



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