

# LUMINESCENT

Newsletter of the Centenary Institute of Cancer Medicine and Cell Biology



Doctors Nick Shackel and Fiona Warner, two of our successful National Health and Medical Research Council grant recipients (read more in Message from the Director on page eight).

## Welcome

Welcome to the October 2007 edition of LuminesCent. In this edition, you will meet the newest scientists to join the Centenary Institute. Read about the expertise they bring to the Centenary and the world leading techniques they will use for their research on page five.

From The Australian newspaper to Channel Nine's Footy Show, our scientists' work has interested varied media outlets lately. You may read about their work which is making the headlines on page two.

It is a pleasure to thank our supporters in this edition with the publication of the 2006/ 2007 Honour Roll as well as the 2007 End of Year Tax Appeal. The work our scientists do is not possible without your support, for which we warmly thank you.

Nick Pearce, Editor

## In the News

### Centenary researchers making the headlines

#### Centenary Institute researcher receives prestigious medal

Professor John Rasko, Centenary Institute's Gene and Stem Cell Therapy Program Head received the Roche Medal from the Australian Society for Biochemistry and Molecular Biology on 24 September. The Roche Medal marks John's outstanding and mammoth contribution to molecular medicine, including gene therapy and molecular biology, in his relatively young career.

Centenary Institute Executive Director, Professor Mathew Vadas said, "In the field of gene therapy, Professor Rasko has been a key figure for a number of years through his work at the Sydney Cancer Centre, Royal Prince Alfred Hospital and the Centenary Institute. The laboratory at the Centenary is widely regarded as a leader in gene transfer technologies and stem cell biology. This regard is without doubt due to the intellect, dedication and pioneering thinking of Professor Rasko in a largely experimental area of modern medicine. We are extremely proud of his work at the Centenary, and in particular his work on the bleeding disorder haemophilia."

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**CENTENARY  
INSTITUTE**



*In the News continued*

## A giant step forward for gene therapy research

Australia's national newspaper, The Australian interviewed Professor Rasko in June (June 2, 2007) about his gene therapy research. John's team of researchers transferred healthy clotting factor genes into haemophilia patients' livers via a harmless virus. For the first time, trial patients experienced a temporary increase in their body's own production of essential clotting factor. A deficiency in clotting factor leads to bleeding episodes, usually into the joints or muscles. His research represented a breakthrough in the development of novel therapies for potentially thousands of genetic diseases. John is planning a second trial to hopefully enable patients to produce enough factor and avoid bleeding episodes.

## Taking steps to prevent sporting injuries

**"Tackles involving the neck in any way need to be removed completely from the game before a player ends up with a serious injury, including spinal cord injuries and death".**

**An alleged grapple tackle at a NRL match between South Sydney Rabbitohs and Sydney Roosters prompted Assoc. Prof. Chris Semsarian to speak publicly about the seriousness of this type of tackle.**

Chris, who attended the match, provided an expert medical report to the NRL judiciary on behalf of South Sydney player, Mr David Fa'alofo. Chris added his voice to other medical experts who are extremely concerned about the consequences of this type of tackle which may result in death unless action is taken to prohibit it from NRL. There was blanket coverage in the Australian and New Zealand media about the incident and Chris' opinion was published in The Australian,

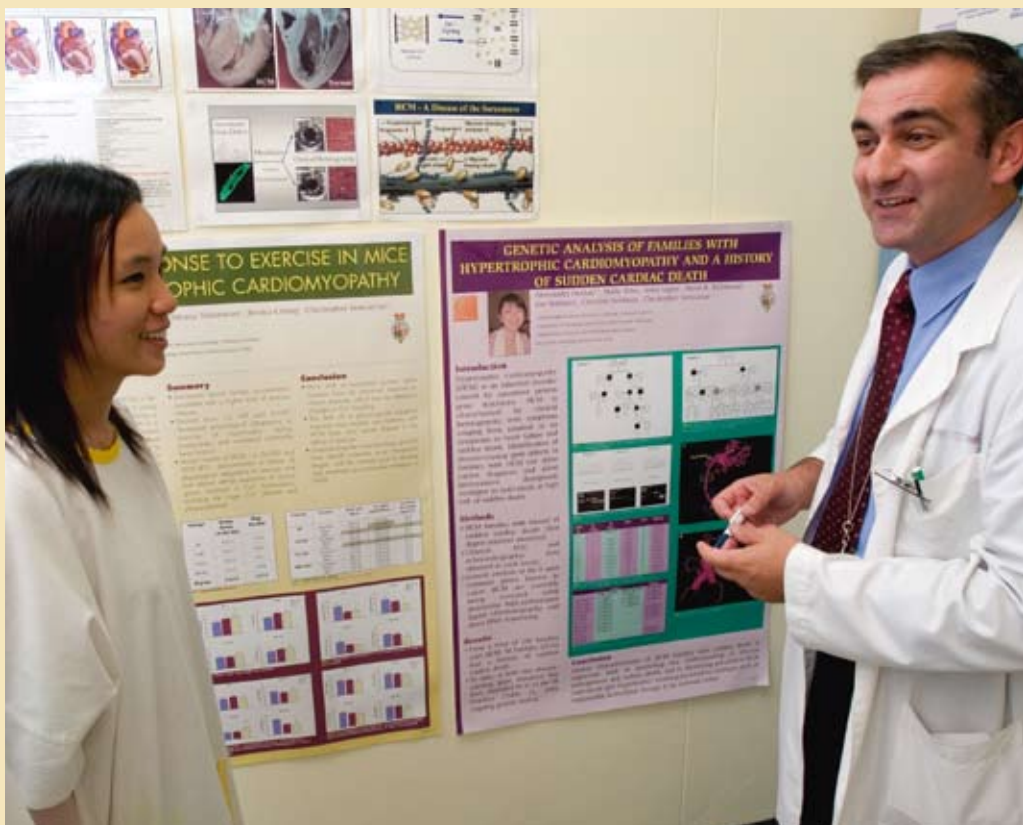
Sydney Morning Herald and Daily Telegraph (September 6, 2007), ABC news online and broadcast on Channel Seven, Nine and Ten's news programs. Chris was also interviewed on Channel Nine's Footy Show and on 2UE's morning breakfast program. As Chris explained, "Tackles involving the neck in any way need to be removed completely from the game before a player ends up with a serious injury, including spinal cord injuries and death".

## Hearty news on World Heart Rhythm day

Centenary Institute Molecular Cardiology Head, Associate Professor Chris Semsarian relayed a number of important messages to the public on World Heart Rhythm Day (June 13, 2007). Speaking on 2SM breakfast radio, Chris encouraged people who have a family history of sudden cardiac death in young relatives or are concerned about their heart to speak to their GP as treatment is available.

For families at risk of sudden cardiac death, an implantable defibrillator can be inserted in a person's heart which restarts it automatically if it stops beating properly. This is a key part of Chris' prevention strategy in people at risk of dying suddenly.

Chris' important advice was also published on the Virtual Cardiac Centre's website, [www.virtualcardiaccentre.com/news.asp?artid=9771](http://www.virtualcardiaccentre.com/news.asp?artid=9771)





# Research Update

## From the bench to the bedside – the work of a Centenary Institute researcher becomes a commercial success

In the life of a scientific researcher, one of the most satisfying outcomes of painstaking research is to see the results find life outside the lab in the form of diagnostic tests, treatments, even cures for diseases.

For Centenary Institute's Professor Barbara Fazekas de St Groth, years of research examining 'regulatory T cells' (Treg), which maintain balance in our immune system and prevent it attacking the body, have paid off.

Barbara's work in this area has led to the development of a new blood test that can be used to identify people with abnormal regulatory T cells who may be at risk of developing inflammatory bowel disease, diabetes, asthma and cancer.

"The blood test we have developed allows us to accurately count the number of Treg cells in the body," said Prof. Fazekas.



"The ability to better detect Treg cell deficits in autoimmune diseases such as Inflammatory Bowel Disease means that we can now identify individuals at risk of developing disease. The test can also be used to assess the effectiveness of new preventative treatments in the future."

The Centenary Institute licensed the new method to Becton, Dickinson and Company (BD) who will make it commercially available. The company is also applying the test methodology to producing Treg cells for future cellular therapy of diabetes.

## New hope for people with Multiple Myeloma

Centenary Institute PhD Scholar Silvia Ling is leading exciting research in chemotherapy treatment for multiple myeloma patients.

Multiple myeloma is a cancer of the type of blood cells called plasma cells. Plasma cells in bone marrow make antibodies which fight viruses and infection. Current treatment options for people with multiple myeloma include chemotherapy, radiotherapy and in some cases stem cell transplant. While the disease may be controlled in most people, it is generally considered incurable.

Chemotherapy is the mainstay treatment to control the disease but the problem of drug resistance is making it more difficult to use

chemotherapy to attack cancerous plasma cells. Silvia is examining a new chemotherapy drug called Bortezomib, the first approved drug from a class known as proteasome inhibitors, which is showing remarkable activity against drug-resistant myeloma, but not for all patients. As part of her research, Silvia is analysing myeloma biopsies from patients to see if she can predict post hoc why patients responded to this new drug.

If Silvia establishes this, her next step will be to develop a test to predict in advance which patients will respond to this drug. This means

patients who will benefit from the drug may be fast-tracked for treatment thus improving their chances of remission.

Even though multiple myeloma is not one of the 'big five' cancers, recent figures show it is becoming more common in younger adults and older people (<http://www.cancercouncil.com.au/editorial.asp?pageid=1105>).

The reason for the increase is not known. But it highlights the importance of medical research like Silvia's to help people with multiple myeloma achieve remission and lead normal, healthy lives.

# On the Horizon....

## New anti-cancer powerhouse for Sydney

The Centenary Institute is joining forces with the Sydney Cancer Centre, one of the largest multidisciplinary cancer treatment centres in Australia to build the Centre for Basic and Translational Cancer Research (CBTCR) on the campus of Royal Prince Alfred Hospital (RPA) next to the University of Sydney.

Associate Professor Michael Boyer, Director, Sydney Cancer Centre stressed the importance of this joint venture, "The Centre for Basic and Translational Research is the next step towards realising our vision of building a Comprehensive Cancer Centre on the campus of RPA for the people of Sydney and this State."

The success of Comprehensive Cancer Centres is dependent on the continual interaction between cancer researchers and clinicians to drive standards of research and patient care forward.

The new centre will have a joint focus on both prevention and treatment of cancer resulting in the potential to reduce the impact

of cancer on the community. The CBTCR offers the opportunity for basic (lab based) researchers to interact directly with clinicians and their patients in order to translate research findings from bench to bedside and back again in a continual search for better health outcomes.

Highlighting the value of this project, Professor Mathew Vadas, Executive Director of the Centenary Institute said, "This is a unique opportunity to build a world class powerhouse fuelling innovation in cancer research and in the translation of discoveries for patient benefit."







# Centenary Welcomes

We have continued to expand our expert team in the second half of 2007 with the arrival of Professor Wolfgang Weninger, Sally Castle and Dr Mika Jormakka.

Professor Weninger joined the Centenary in June as Research Program Head of the new Immune Imaging laboratory. Together with a new team of research scientists, Professor Weninger will use cutting-edge technology to study why white blood cells are able to destroy cancer cells some of the time but often fail. While previous generations of researchers have drawn logical conclusions about immune responses to tumours, Professor Weninger has astounded the medical community in Sydney and the world by showing real-time videos of how actual white blood cells are able to invade and destroy cancers in living tissue. The Centenary is very excited about the work he will do using the innovative imaging approach called two-photon microscopy.

Joining us from the National Heart Foundation in July, Sally Castle has taken on the important role of Fundraising and Marketing Manager for the Centenary Institute Medical Research

Foundation. Sally's expertise includes marketing, PR and fundraising for growth in the not for profit sector. She has been instrumental in raising the income and profile of many not for profit organisations in Australia and London.

And most recently, Dr Mika Jormakka joined us in August as Research Program Head of the new Structural Biology group. Originally from Sweden, Mika joins us from the Structural Biology Department at University of New South Wales.

Mika will lead research to understand the anatomy of medically relevant proteins, a largely uncharted research area due to its challenging nature. By establishing the exact anatomy of proteins, Mika's research will increase our understanding of processes in our cells and support the development of drugs based on the structure of the protein, which he hopes will lead to more effective drug treatments for patients.

## AGM update

### The Hon. Tony Abbott, Minister for Health & Ageing attends inaugural Centenary Institute AGM

We held our first AGM on Friday, 31 August and were privileged that The Hon. Tony Abbott, Minister for Health & Ageing found time in his hectic ministerial schedule to attend and hear about the work of the Centenary.

At the meeting, Executive Director, Professor Mathew Vadas spoke about the Centenary's plans for the future in particular our growth plans to double in size over the next five years. He acknowledged the support of all donors to the Centenary, and in particular the visionary donor, Dr Tom Wenkart, who has contributed significantly to the establishment of a Chair of the Endothelium at the Centenary.

Centenary researchers, Professors Warwick Britton, Barbara Fazekas de St Groth and John Rasko were each acknowledged for their contributions to medical research in tuberculosis, autoimmune diseases and gene therapy respectively. Minister Abbott awarded each of them with a Centenary Institute certificate to mark the publication of their research in world-renowned medical journals.

Finally, Professor Weninger presented his ground-breaking research in the area of immune imaging.



# Sponsor a seat of knowledge, support a cure!

We are offering you the opportunity to make a lasting impression in the field of medical research through the purchase of your own personalised seat of knowledge in the Centenary Institute's primary lecture theatre. The lecture theatre is where our researchers teach, learn and share their breakthroughs in medical research.

Centenary is entering a major phase of growth over the next five years to build on our current outstanding work in the areas of cancer treatment and prevention, liver and heart diseases, TB and immune diseases. To achieve this, our efforts to raise capital are ongoing and the first phase of a global recruitment program to attract the finest scientific minds to the Centenary is underway. We want you to know that your involvement and support is critical on this long and challenging road.

## A gift for posterity

With your donation of \$1,000 (or more), Centenary Institute will:

- Inscribe a plaque with either your name or the name of someone you would like to honour;
- Affix your plaque to a seat of knowledge in our lecture theatre;
- Send you an official certificate of recognition.

The number of available seats is limited, so if you are interested in this special opportunity, please phone Sally Castle (02) 9565 6166 or email [s.castle@centenary.org.au](mailto:s.castle@centenary.org.au).

A final thought, one of the greatest leaders of our time, MK Gandhi once said, "Live as if you were to die tomorrow. Learn as if you were to live forever."



## Centenary Institute art

The Centenary Institute has become a far more aesthetic place to work since Watters Gallery kindly loaned a number of magnificent paintings to us. We thank the gallery's principals, Frank Watters and Geoffrey Legge for the opportunity to view the work of wonderful artists on a daily basis.

## Say "thanks" in November

Research Australia – a national not-for-profit alliance of more than 190 member and donor organizations - has nominated November as the month to say "thank you" to health and medical researchers in Australia.

"Thank You" Day is an opportunity to send a personal message of appreciation to researchers working every day to make our lives better and last longer.

Messages of support may be sent via [www.thankyouday.org](http://www.thankyouday.org) or SMS at 0428THANKS anytime before November 20, 2007.

"Thank You" Day **Research Australia**  
An alliance for discoveries in health



# Your bequest could change the future....

In the 25 years since our inception, incredible advances have been made in the fight against life-threatening diseases such as cancer, heart disease, diabetes, haemophilia and tuberculosis (to name just a few) – but there is no end in sight to our important work.

Bequests are crucial to the long-term success of the Centenary Institute. Our supporters who have mentioned the Centenary Institute in their Wills are special to us. They have committed to provide the long-term support necessary to the research our many brilliant scientists conduct into the causes, treatment and prevention of devastating medical diseases.

But more bequests are needed to finance our researchers to invest time and effort in currently unimagined areas of research. Bequests provide a guarantee that essential funding will be available when needed.

There are a number of ways you can remember the Centenary Institute in your Will.

- A Pecuniary Bequest refers to leaving a gift of a certain amount;
- A Specific Bequest means you intend to leave the gift of an item of value, such as jewellery or a painting from which we can generate funds.
- A Residual Bequest means that a gift is made to the Centenary Institute comprised of whatever is left of your estate – or a percentage thereof – after all of your other gifts to family and friends, taxes and debts have been fulfilled.

A Residual Bequest is the most valuable type of bequest. It is highly recommended because it maintains its value relative to inflation and automatically adjusts as the value of your estate changes.

If you decide to leave a bequest to the Centenary Institute, please let us know that you have done so. It is crucial that we know of your intentions, as this enables us to free up current funds for research, secure in the knowledge that your generosity will provide future funding.

Should you wish to discuss bequests further, please phone Mathew Vadas, Centenary Institute's Executive Director on (02) 9565 6135 or Sally Castle, Fundraising and Marketing Manager on (02) 9565 6166.

The Centenary Institute sincerely thanks the Estate of the late Leslie Allan Maurer for their Bequest to medical research at the Centenary Institute.

## Getting to know you – bequestor profile

### Gareth & Carmel Hall



As well as giving generously to our annual fundraising appeals over the years – Gareth and Carmel have included a bequest to the Centenary Institute in their Wills. According to Gareth,

**“I’ve been supporting the Centenary Institute both personally and through my company for many years, so I see leaving a bequest as**

**simply a continuation of what I’ve been doing throughout my life. We have two children, and wanted to do something good for them long term, as well as for our grandchildren.”**

**“I was diagnosed with a brain tumour when I was 28 years old and told I had six months to live. Luckily, the tumour wasn’t malignant and, well, 28 is a while ago now.”**

**“As a cancer survivor I strongly believe that research to eradicate cancer - or at least improve the mortality rate from cancer - is very important. Unfortunately, these days it seems that everybody is touched by cancer at some stage in their life.”**

**“Making the bequest was an easy thing to do. My wife and I were updating our wills a few years ago, discussing what we should do with our assets and the subject of leaving money to charity came up. Once we made the decision to include a bequest to the Centenary Institute it was easy, we just spoke to our solicitor and he helped us with everything.”**

We’d like to thank the Halls for their generosity in including the Centenary Institute in their Wills.

# Message from the Director

## *Let's build together*



Dear supporters, at the Centenary Institute we are looking at a very active and busy future. We are convinced that our skills within the Centenary, combined with those around us can lead to a wonderful acceleration of the research effort on the campus.

For example, our partnership with the Sydney Cancer Centre to build a cancer devoted research facility next to the Centenary is well under way. This partnership is at the core of the Centenary's values, that is achieving something collectively that we could not achieve as individuals.

I am pleased to report that our global recruitment program to attract the best talent from around the world to work with us is also bearing fruit. We welcome our newest scientists, Professor Wolfgang Weninger from Austria and Dr Mika Jormakka from Sweden whose work you may read more about in this issue of LuminesCent.

I'm also delighted to congratulate Centenary Institute researchers who have performed extremely well in the latest funding round from the National Health and Medical Research Council (NHMRC). We have been awarded 40% of the applications we submitted to the NHMRC which is well above the national

average success rate of approximately 22% for medical research organisations.

As part of our commitment to education, we are continuing our weekly seminars which provide an opportunity for us to hear about each other's research as well as international experts and researchers from other medical academic centres in Australia. We were honoured that world epidemiology expert, Professor Valerie Beral, University of Oxford, UK visited us in September to speak about her fascinating work on the Million Women Study, the largest ever study of female health.

Our inaugural AGM in August presented a great opportunity to come together and showcase our work to date, and share our plans for the future with you, our supporters.

So we thank you again for your support, and ask that you stay involved with us as we build not only a stronger Centenary but a stronger way to maximise the impact of medical research on health.

Professor Mathew Vadas

## Equine Flu Spreads to Centenary Institute's 2007 Race Day



Unfortunately, the Centenary Institute has not escaped the equine influenza and we are very disappointed to tell you that the **14th Centenary Institute Race Day and Luncheon is postponed until 2008.**

The Sydney Turf Club have told us that the period of time between vaccination of horses in New South Wales and the Centenary Race Day is not sufficient to ensure horses will be eligible to race on Saturday, 27 October.

While we have invested significant time over the past few months to prepare for Race Day 2007, we are equally mindful and sympathise with the entire racing & equine community who are impacted by the EI outbreak.

Your attendance and support at previous Race Days is truly appreciated and we assure you we will be back next year with enthusiasm in abundance to organise a fabulous day out.

In the meantime, as 'Race for A Cure' Day is our major fundraising event for the year, we are faced with a significant loss in revenue for the important medical research conducted by our great scientists. We would warmly welcome your donation to help us meet this shortfall.

So, supporters and friends, unfortunately, the hat and the party dress need to go back in the wardrobe until 2008. We look forward to a great day of racing and fundraising with you then.

Centenary Institute of Cancer Medicine and Cell Biology

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