

under the microscope

Features

CMRI Success	2
Cellbank	3
Jeans for Genes	4
Designer Drugs	5
Committee Power	6

Today's scientists for tomorrow's children

The Children's Medical Research Institute (CMRI) is an independent organisation committed to unlocking the mysteries of disease. Our scientists investigate conditions such as birth defects, cancer, and epilepsy. Our philosophy is that major advances in prevention and treatment come from research into the fundamental processes of life. Our work is made possible by our community of supporters and Jeans for Genes®.



**CHILDREN'S
MEDICAL
RESEARCH
INSTITUTE**

Produced by the Fundraising & Community Relations Department, Children's Medical Research Institute

Locked Bag 23
Wentworthville NSW 2145
Tel 02 9687 2800
Fax 02 9687 2120
Freecall 1800 GENIES (436 437)
Email info@cmri.com.au
Website www.cmri.com.au

© CMRI 2007



Professor Roger Reddel

New Director

The Children's Medical Research Institute (CMRI) is delighted to officially welcome its new Director, Professor Roger Reddel. As Head of CMRI's Cancer Research Unit for the past 19 years, and Acting Director since the retirement of Professor Peter Rowe in July 2006, Roger is no stranger to the Institute. He has ensured the smooth running of the Institute over the last year and has been working on plans for the future expansion of the Institute, which celebrates its 50th anniversary next year. "The CMRI has a very proud history of achievement in researching childhood diseases, and is now on the verge of an exciting phase in its growth and development as a truly world-class research facility," said Dr Reddel.

CMRI President and Chairman of the Board, Associate Professor Frank Martin said, "The Board is delighted to appoint Professor Roger Reddel as the CMRI Director. Roger is an internationally acclaimed medical researcher who will build on the outstanding foundations established by Professor Peter Rowe, and lead CMRI into its next phase in research and development."

Director's desk



I feel very honoured to have been appointed Director of the Children's Medical Research Institute, which has a wonderful history of achievement in researching childhood diseases, and such outstanding potential for further advances in the future.

Some may wonder why the CMRI has a tradition of appointing a researcher as its Director or Chief Executive Officer – why not appoint an experienced manager to run the Institute and let the scientists get on with their research? CMRI shares this tradition with research organisations across Australia and around the world, who regard it as best practice to be "led from the front" by an active researcher. A well-known example is Professor Ian Frazer, 2006 Australian of the Year, renowned for developing a vaccine against cervical cancer, and who also leads a research institute. The "business" of research institutes is to make discoveries – in the case of CMRI, to make discoveries that will benefit the health of our children. Having a researcher at the helm seems to be very helpful for creating the environment in which important discoveries can be made.

So my personal challenge over the years ahead will be to juggle the role of cancer researcher, to which I remain completely committed, with the new role of CMRI Director. It's a great privilege to be given this opportunity to lead the Institute through what I am sure will be a very exciting phase of its growth and development.

A handwritten signature in black ink, appearing to read 'Roger Reddel'.

Professor Roger Reddel

Congratulations CMRI Scientists

Professor Reddel has recently been awarded the prestigious **Ramaciotti Medal for Excellence** in Biomedical Research, for his research into cancer cell 'immortalisation' (unlimited growth). As an international leader in cancer research, he and his team are best known for discovering a mechanism by which cancer cells can achieve immortalisation, called the ALT mechanism. And earlier this year they discovered the molecular composition of an enzyme called telomerase, which is instrumental in another mechanism by which cancer cells can become immortal. These discoveries open up the possibility of finding molecules that can treat cancer by blocking ALT and telomerase.

President's Medal: Professor Patrick Tam has recently completed some pioneering work into the movement of cells and tissues in developing mammalian embryos. And for his 27 year endeavour he has been awarded the Australia and New Zealand Society for Cell and Developmental Biology's President's Medal. Professor Tam's exploration into how cells and tissues follow a pattern as they mature in the early embryo provides fundamental insights into tissue organisation.

NHMRC Successes: CMRI scientists have successfully competed for prestigious research funding from the National Health and Medical Research Council of Australia. Professor Roger Reddel and Dr Lorel Colgin received a three-year grant to study how brain tumours and other cancers protect the ends of their chromosomes from shortening, which will lay the basis for future anti-cancer treatments. Another three-year grant will enable Professor Phil Robinson and Dr Megan Fabbro to study the function of the protein dynamin II in cancer. This is also a very promising target for killing cancer cells. In addition, Professor Robinson's Senior Principal Research Fellowship has been renewed for five years, which will allow him to continue his exciting program of research into the biology of dynamin proteins.

Associate Professor Edna Hardeman, Head of CMRI's Muscle Development Unit has also been awarded two collaborative grants to study muscle biology with scientists from the Universities of Queensland and New South Wales, and The Children's Hospital at Westmead (CHW). Dr Ian Alexander Head of the Gene Therapy Research Unit (GTRU) has also been awarded two collaborative grants with scientists at the University of Technology Sydney and CHW and the Garvan Institute to study gene therapy approaches for diabetes and a condition affecting the bone. **The GTRU is a joint initiative between CHW and CMRI.*



Professor Tam with his medal



Professor Roger Reddel with his Ramaciotti medal

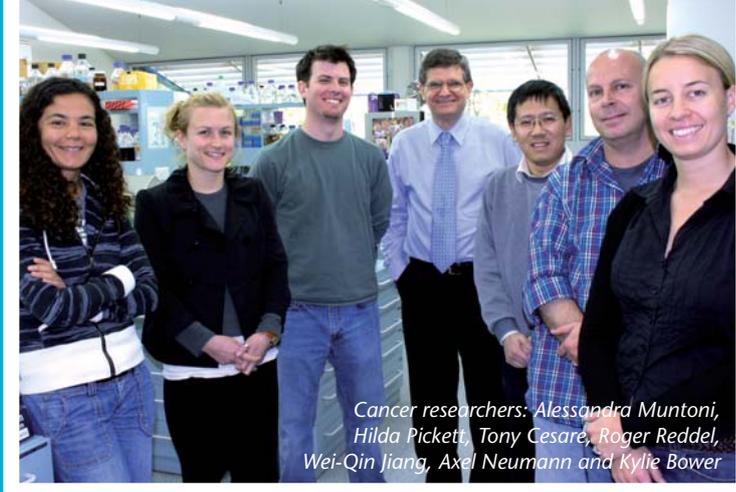
New Grants: Dr Gregory Pelka's research into Rett syndrome has received a boost as he has been awarded a Clive and Vera Ramaciotti Foundation establishment grant for young scientists. Dr Pelka is measuring protein levels altered in the brains of Rett syndrome mice using CMRI's multi-signal scanning 'Typhoon' system (see UTM Autumn 2007).

An Ophthalmic Research Institute of Australia grant has also been awarded to CMRI's Dr Robyn Jamieson and Professor Patrick Tam, and Save Sight Institute's Dr John Grigg and Dr Frank Billson, to investigate the genetic causes of microphthalmia and anophthalmia. Patients who inherit this rare condition have very small eyes or no eyes, suffering blindness. The support of this grant allows the researchers to study mice and a group of patients with this condition.

How Cancer Cells Hide their Damaged DNA

Normal cells become cancer cells when their DNA gets damaged in specific ways, but normal cells have powerful protection mechanisms against this. When damage is detected, normal cells usually respond either by repairing it where possible or by self-destructing so that the rest of the body will not be adversely affected. It's only when the damage escapes detection that cancer can develop.

CMRI's Cancer Research Unit (CRU) has been studying tiny structures called APBs that are found in about 10% of all cancers, and were first discovered at CMRI. In the past few months, they have reported a flurry of new discoveries about these structures.



Cancer researchers: Alessandra Muntoni, Hilda Pickett, Tony Cesare, Roger Reddel, Wei-Qin Jiang, Axel Neumann and Kylie Bower

Dr Clare Fasching, Dr Alessandra Muntoni and other members of the team found that APBs contain fragments of DNA that are broken off from the ends of chromosomes. They have proposed the theory that the cancer cells package up the broken DNA into APBs to hide it from the cell machinery that would otherwise force the cells to self-destruct. This allows them to go on reproducing themselves, and the cancer to keep on growing.

Dr Wei-Qin Jiang has also been studying APBs and has invented a new method to detect which proteins are involved in forming the APB structures. So far he has identified eight proteins, and plans to use his method to identify more. In a follow-on study, three of these proteins have been subjected to detailed analysis by CMRI PhD student Ze-Huai Zhong to see if they are required for the cancer cells to continue dividing.

"The challenge now will be to use this new knowledge to block the growth of cancers that contain APBs," says Professor Roger Reddel, Head of the CRU. "Cancers where this is particularly important include tumours arising in the brain and bone."

CellBank Australia – a First!



Dr Amanda Capes-Davis in the new CellBank Australia Facility

CellBank Australia's specially-equipped, custom-designed laboratories have been completed and the facility is now open for services and cell line deposits. This new facility, based at the CMRI, will be the first national repository of certified cell lines for researchers in Australia.

An initiative of Cancer Research Unit Head Professor Roger Reddel and Cure Cancer Australia Foundation; CellBank Australia has been established as a joint venture of the CMRI, Cure Cancer Australia Foundation and National Breast Cancer Foundation, and by an Enabling Grant of the NHMRC. CMRI has operated the facility from July 2007.

With state-of-the-art facilities comprising two clean rooms, a combined quality control room and office, and a freezer room; CellBank will be stocked with all of the necessary cell culture equipment. This includes sixteen incubators and three liquid nitrogen containers, with the capacity to hold 20,000 samples each.

"We are aiming to build up a collection that will contain multiple copies of around a thousand cell lines," says CellBank Manager, Dr Amanda Capes-Davis. "Human cells can be grown in the laboratory to act as models for different disease processes. At the moment, scientists wanting quality controlled cell lines have to import them in frozen form from overseas. Quality control is an issue because cell lines are easily contaminated with other cells or micro-organisms that are very hard to detect."

"CellBank will make it easier for researchers to obtain these cell lines, saving scientists both money and time, and use of quality controlled cell lines will increase the impact of their research." For more information visit www.cellbankaustralia.com

Jeans for Genes®

Jeans for Genes Update

To date in 2007, Jeans for Genes® has raised \$3.15 million. Congratulations to everyone involved and to the millions of people who wore their jeans, gave a donation or bought merchandise in support of CMRI. If you haven't as yet sent in your monies, please do so ASAP and if you have any queries please contact us on 02 9687 2800.

Jeans for Genes Day 2007 – Allens Arthur Robinson

The partners and staff of Allens Arthur Robinson raised over \$20,000 for CMRI. Decked out in their finest denim, 'Jean Genies' worked tirelessly selling badges and merchandise and the Sydney office organised a 'Battle of the Bands'.

Jeans for Genes 2008 – Dates to fill your Diary

- Friday May 9: Mothers' Day Luncheon
- Friday May 9 – Saturday May 10: Mothers' Day Charity Gift Wrapping
- Friday May 23: Jeans on the Greens Golf Day
- Monday June 23: Opening of the Jeans for Genes Art Exhibition
- Thursday July 10: Denim Gold Ball
- Friday August 1 – Sunday August 3: Jamm for Genes®
- Friday August 1 – Jeans for Genes® Day 2008:**
One date you can not forget!
- Friday September 5 – Saturday September 6:
Fathers' Day Gift Wrapping
- Saturday September 20: Jeans for Genes Charity Race Day

Golf Day

'Jeans on the Greens Golf Day' is on again! For sponsorship enquiries or to get a team together, please contact Christine McGee on 02 9687 2800 or cmcgee@cmri.com.au

Denim Gold Ball – A must for your diaries

The Denim Gold Ball will be held on July 10. This includes the celebrity art auction and celebrates the 50th anniversary of the CMRI. Please contact Christine McGee on 02 9687 2800 or cmcgee@cmri.com.au for further information.

Gift Wrap for a Cause

December is just around the corner and Jeans for Genes will once again be embracing the Christmas spirit by gift wrapping at selected Myer stores and also Rhodes Shopping Centre.

MYER CHARITY GIFT WRAP PROGRAM

Be a Gene-ius and help raise funds for CMRI by wrapping gifts at Myer Sydney City, Myer Bondi Junction and Myer Parramatta between Friday December 7 and Monday December 24 2007. The Myer Charity Gift Wrap program has already raised over \$38,000 for CMRI!

RHODES SHOPPING CENTRE CHARITY GIFT WRAP PROGRAM

Jeans for Genes has been approached by Rhodes Shopping Centre to wrap gifts in the Centre from Saturday December 15 to Monday December 24 2007.

To register please contact Lynda Dave on 02 9687 2800 or ldave@cmri.com.au

Jeans for Genes is a major fundraiser of the Children's Medical Research Institute

Jeans on the Greens Day golfer



Gift wrapping is for all!



Little Gene-uses Charlie Breen and Wil Charters (photo courtesy of Mark Taylor)



50th Anniversary – memories. Please help!

Major planning is underway for the 50th anniversary celebrations of the Children's Medical Research Institute (CMRI), which was originally the Children's Medical Research Foundation (CMRF). So we are calling on our friends to tell us your stories (and/or provide photographs) about our early years. Perhaps you remember attending the foundation meeting at the Sydney Town Hall in 1958? You may know someone who worked at Camperdown in the 1960s or 1970s – or a family member/former patient who remembers founder Sir Lorimer Dods or other researchers of the CMRF. We would love to hear from you as our 50th anniversary draws near. Call the Community Relations Department at CMRI on 02 9687 2800 or email jphilps@cmri.com.au

NEW



Committee Power

COMMITTEES

We are delighted to welcome on board the new CMRI **Tweed Coast Committee**, which has been formed by some very enthusiastic bridge players. President Margaret Liversage, who has a 40 year association with CMRI, invited a group of friends to support the CMRI. We look forward to a long and successful association with the local community.

Port Hacking Committee held a **Charity Golf Day at Cronulla Golf Club** on a glorious August day raising a fantastic \$24,500. Cancer researcher Dr Scott Cohen modestly described his telomerase breakthrough to a very receptive audience at dinner that evening, rounding off a very successful and enjoyable event.

The Beecroft Committee teamed up with the **Castle Pines Art and Craft Show** again this year, with proceeds from the raffle and a CMRI stall going to the Institute. The event, opened by Federal member The Hon Alan Cadman MP, was a roaring success with many handmade Christmas presents on offer.

Quirindi Committee held a fabulous 40th anniversary 'Day at the Races' for over 150 guests. Despite the horse flu epidemic, the glorious weather, delicious lunch, 'A History of Hunter Thoroughbreds' presentation by Scone's very own Dr Howey, and a very successful sweep for the Caulfield Cup Race in Melbourne made this a day to remember.

Mudgee Committee held an exotic 'Night at the Casbah' for Jeans for Genes Day this August with belly dancing and music provided by the 'Flying Camels'.

At the **Strathfield Committee Luncheon**, Her Excellency Mrs Marlena Jeffery gave a captivating talk at NSW Parliament House on her life as the wife of the Governor-General. Her reminiscences and anecdotes were thoughtful, fascinating and often amusing and we are very grateful that she managed to fit us in to her very busy schedule.

OTHER SUPPORTERS

Circular Keys Chorus put on a delightful musical event at the Pacific Hills Christian School, singing show songs in their witty production of 'CKC on Air'. CKC generously supported CMRI again this year by donating proceeds from the event.

John Paul College in Daisy Hill, Brisbane, have supported the CMRI for over 10 years, donating \$23,000 in that time. This year students donated a very generous cheque for almost \$3,000.

Dates for your Diary

Friday 7 December: **A Treasury of Craft Fair** will be held at the Don Moore Community Hall, North Rocks. Contact Jennifer Philps on 02 9687 2800.

Saturday 8 December: **The Racquet Committee** has their Christmas Pantomime featuring the talented Pymble Players. Contact Prue Kellaway on 02 9974 4197.

Sunday 16 December: Join in with the annual **Tamworth Committee Carols in the Park** with country singing and delicious food stalls. Contact Verity Bligh on 02 6760 9242.

Friday 18 – Sunday 27 January: Come along to CMRI's first 50th Anniversary event '**A Moving Art Exhibition**' to be held at the Weswal Gallery, 192 Brisbane Street, Tamworth (opening Thursday 17 January 6.30pm). Contact Tricia Donovan 02 6733 2062.

Left to right:

'CKC on Air';

Belly dancers at the Mudgee Casbah;

The Tweed Coast Committee (L to R) CMRI's Jennifer Philps with Cad Brown, Margaret Liversage (seated), Eileen Dooley, Zoe Bell;

Quirindi Committee's Race Day luncheon;

John Paul College's Danielle Alexander and Madelaine Bickley (Front Row) with Anna Wiles and Blair Shaplan (Back Row).

