



08/09

COLLABORATIVE
RESEARCH
UPDATE



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MESSAGE FROM THE CEO



PCFA RESEARCH COMMITMENT

Prostate Cancer Foundation of Australia (PCFA) has a long history of funding world-class Australian researchers working in the fight against prostate cancer. Yet, each year the PCFA's Research Committee receives more funding applications than it is able to fund.

However, in recent years we have been able to greatly increase this funding thanks to the growing community and corporate support that we receive. In particular, the spectacular success of the Movember campaign – where all Australian men are encouraged to grow a moustache in November to raise funds to support both PCFA and *beyondblue: the national depression initiative* – has enabled some major financial commitment from PCFA.

On November 1 2007, the national board of PCFA announced further funding grants of just over \$4,000,000. This took PCFA's total research commitment to more than \$7,000,000

Given the complex nature of prostate cancer, there are many aspects of the disease that need investigation. In several of these, Australia is undertaking ground breaking and vital research in such areas as new tests to assist with the diagnosis, new treatment modalities and new techniques for dealing with advanced prostate cancer:

PCFA is grateful for the leadership shown by the members of the current National Research Committee who review each and every application that PCFA receives.

The current members of the committee are:

- Professor John Mills (Chairman)
- Professor Jerry Adams
- Professor Suzanne Chambers
- Professor (Frank) Gardiner
- Professor Howard Gurney
- Associate Professor Susan Henshall
- Professor Robert Newton.

This publication is a snapshot of some of the research work that is being undertaken here in Australia and funded, with your support, by PCFA.

PCFA and its generous corporate and community partners can fund the work of truly outstanding researchers around Australia, including some of our brightest young research talent. We are all working toward the one ultimate goal – to reduce the impact of prostate cancer on Australian men and their loved ones.

Whilst we still have a long way to go in the fight against prostate cancer, PCFA is delighted to be leading the battle through its national grant program.

Thank you for your support.

A handwritten signature in blue ink, which appears to read 'Andrew Giles'.

Andrew Giles

WHAT YOU NEED TO KNOW ABOUT PROSTATE CANCER

Prostate cancer is the most common cancer diagnosed in Australia.*

(EXCLUDING NON-MELANOMA SKIN CANCERS)

More than **2,900** Australian men died from prostate cancer in 2005.*

An estimated **18,700** new cases of prostate cancer were diagnosed in Australia in 2006.*

It is recommended that men aged 50 and over speak with their doctor annually about prostate cancer and, if necessary, be tested.

Generally, prostate cancer does not have obvious symptoms at the early, and potentially curable stage.

However, if there is a family history of prostate cancer, men should speak with their doctor annually from the age of 40 and, if necessary, be tested.

Note: The quoted statistics were current at time of publication.

*AIHW (Australian Institute of Health and Welfare) and AACR (Australasian Association of Cancer Registries) 2007. Cancer in Australia: an overview, 2006. Cancer series no. 37. Cat. No. CAN 32.

WHAT YOU NEED TO KNOW ABOUT PCFA

The Prostate Cancer Foundation of Australia is the peak national body for prostate cancer in Australia.

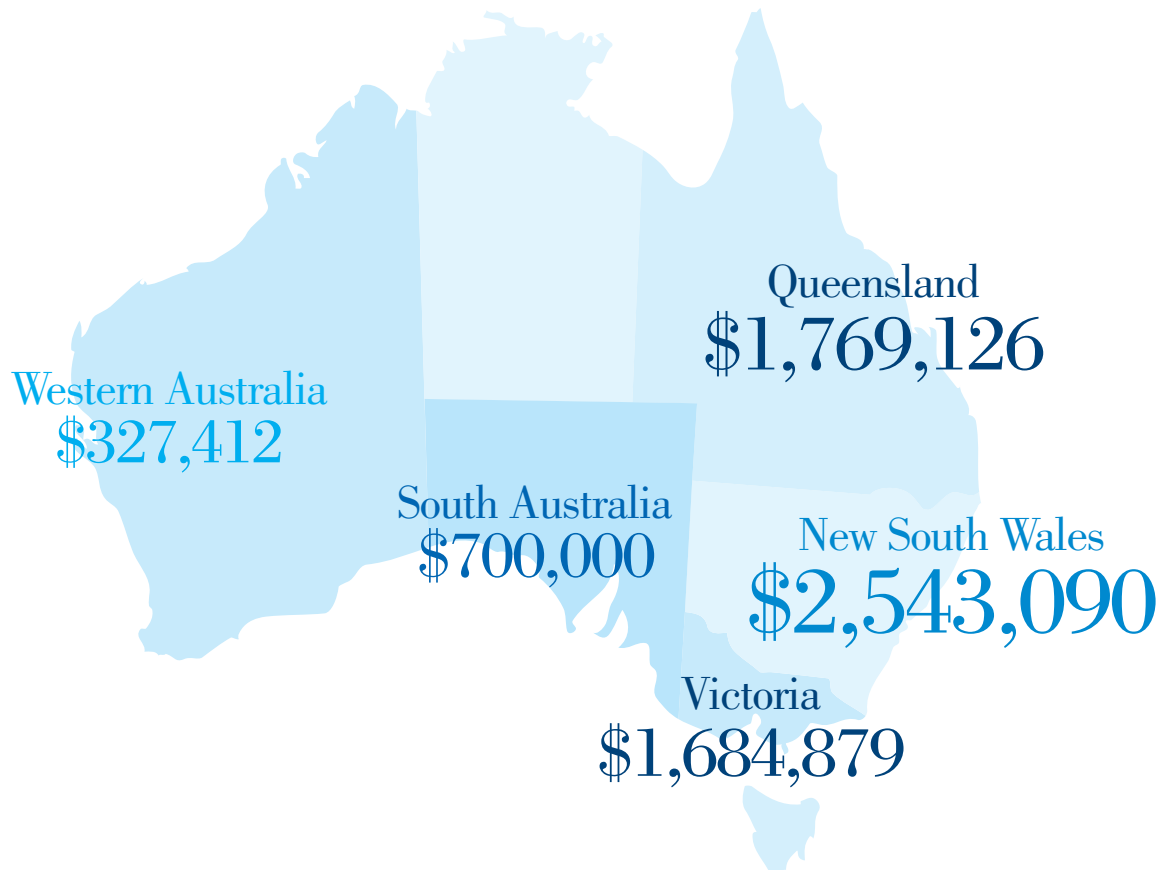
It is dedicated to:

- providing support, information and advocacy to men and their families impacted by prostate cancer
- raising awareness about prostate cancer
- funding research into the cause, diagnosis, prevention and treatment of prostate cancer.

The Prostate Cancer Foundation of Australia receives limited funding from government. It therefore relies on the generosity of corporate partners, individuals and the community to help continue its essential work.

For further information about PCFA or to make a donation, please call the toll free number, 1800 22 00 99, or visit www.prostate.org.au.

PCFA'S RESEARCH FUNDING AROUND AUSTRALIA – 2008



National total more than
\$7,000,000

THE MOMENTUM OF MOVEMBER



Since 2004, Movember has raised more than \$20,000,000 for men's health organisations in Australia, with Movember also gaining momentum now in USA, UK, Canada, New Zealand and Spain.

In the area of prostate cancer, Movember funds have been used to support world-class research into such vital projects as the identification of new markers for the presence of prostate cancer and new therapeutics for locally invasive or metastatic prostate cancer.

PCFA research such as this, funded by Movember, ultimately aims to benefit the more than 18,700 Australian men who are diagnosed with this disease each year, as well as men around the globe.

Since Movember's inception in 2004, PCFA has worked very closely with The Movember Foundation. This collaboration ensures the funds raised each year by so many generous Australians will continue to have a significant impact on prostate cancer, and those effected by this insidious disease.

Movember is not only a substantial fundraising event for PCFA. It also raises awareness about this disease, and encourages Australian men to take responsibility for their own health.

Australian men are getting better about taking their health seriously, and I believe Movember has made a significant impact in this area. It's a great way for Australian men and the women who love them to be involved, while also generating community interest and important discussion about prostate cancer.

I'd like to sincerely thank everyone who has participated in Movember over the years, by either growing a mo or sponsoring a Mo Bro. I encourage everyone to start planning how you can help to make next Movember the most successful yet.

For further information on Movember, visit www.movember.com



MEET THE RESEARCHERS

DR KRISTEN RADFORD



Dr Kristen Radford is the lead researcher with a team at The Mater Medical Research Institute (MMRI) in Brisbane. Co-funded by the Prostate Cancer Foundation of Australia, this team is investigating the potential of a novel prostate cancer protein. They hope to prove this protein is the key to stimulating

the immune system to attack and destroy prostate cancers.

Dr Radford began her research career in cancer immunology in Newcastle, NSW in 1992. Her subsequent Honours and PhD work was in trying to understand how melanomas spread throughout the body. For this, she was awarded Young Researcher of the Year by the Leo and Jenny Cancer and Leukaemia Foundation NSW.

In 1998, Dr Radford was again recognised as a talented young researcher. She was awarded the ACTEW Corporation Science and Technology Award, overall Young Achiever of the Year in NSW (Young Australian of the Year Awards), and was a finalist in the Science and Technology Section of the National Young Australian of the Year Awards.

From 1998 until 2001, Kristen worked as a post-doctoral fellow at the Molecular Oncology Unit, Imperial Cancer Research Fund (now Cancer Research UK) in London. Here she focused on developing a novel vaccine strategy for cancer using dendritic cells and *E. coli*.

In 2001, Dr Radford began work under Professor Derek Hart at the MMRI, where she now leads the Dendritic Cell Cancer Team. This team aims to develop new vaccine strategies based on dendritic cells for the treatment of a variety of malignancies, but in particular, prostate cancers.

Kristen has played a significant role in the development of the MMRI Clinical Trials Centre. Her work has provided essential preclinical data to justify the first clinical trial of a prostate cancer vaccine at the MMRI, which commenced in late 2005.

PROFESSOR PAMELA RUSSELL AM



Professor Pamela Russell AM is Director of the Oncology Research Centre at Prince of Wales Hospital, Sydney. In 1995, along with Mr Roger Climpson, Professor Russell founded what is now the Prostate Cancer Foundation of Australia. In 2007, Professor Russell was awarded Life Membership of PCFA, in

recognition of her integral work in the field of prostate cancer.

Even in these early days, the aim of PCFA was to help fund research and to educate the community about prostate cancer. Since then, PCFA has become the peak national body for prostate cancer in Australia.

A major emphasis of Professor Russell's current work is a study of bony metastasis from prostate cancer and of nanotechnology for imaging and therapy of prostate cancer. She has also contributed strongly to studies of gene therapy for prostate cancer with scientists from CSIRO, and this work is now at clinical trial for men with late stage cancer.

As well as establishing PCFA, Professor Russell is a founder; and until 2000, vice-chairman of the Genitourinary Oncology Group (GUOG) NSW. She is an executive member of the Australian Prostate Cancer Collaboration, a Member of Prostate Disease Advisory Group for Andrology Australia, and is currently the secretary of the new clinical trials group for urological cancer, APUG.

In 2003, Professor Russell was awarded an AM for excellence in prostate cancer research. In 2006, she received a prize for being an outstanding research alumnus of the Kolling Institute of Medical Research, Sydney.

In 1995, when she first spoke with Mr Roger Climpson about setting up PCFA, Professor Russell says she initially hoped it would help fund research into prostate cancer and educate the general public about prostate cancer:

“At that stage, funding for breast cancer research was some eight-fold higher than that going to prostate cancer research. I felt it would be of extreme importance, given their similar incidence, to try to generate more money for prostate cancer research,” said Professor Russell.

Though she can identify many great PCFA achievements to date, Professor Russell is particularly proud of the first prostate cancer tissue bank, set up through PCFA and Commonwealth Bank, together with Andrology Australia.

“This provided a platform to base grant applications for further funding (NHMRC). However, ongoing funding is required to bring this exercise to its peak value.

“Moreover, the prostate cancer tissue bank has had the positive spin off of bringing together different research groups to work as a community. This is of major importance in Australia, as it is necessary to compete for funding with overseas groups. Setting up the tissue bank has emphasised the importance of helping each other in the research community, as well as in the community generally.

“More recently, starting to get increased corporate sponsorship has increased awareness about prostate cancer. It provides the potential to make a real difference to future funding for education, research and new clinical strategies for this important disease,” concluded Professor Russell.

DR GRANT BUCHANAN



Like all PCFA corporate supporters, BHP Billiton has recognised prostate cancer as a major men's health issue that has a significant and long-term impact on the Australian community. As such, BHP Billiton is funding the BHP Billiton Young Investigator Research Fellowship. The recipient of this award is South Australian-based researcher, Dr Grant Buchanan.

This four-year project aims to define the role of the PCARC gene in prostate cancer progression and survival. The ultimate aim is to find new ways of diagnosing life-threatening prostate cancer, and to identify new drugs that could be used to prevent and treat the disease.

Recent advances have resulted in earlier diagnosis and effective management of most prostate cancers. Nonetheless, a significant proportion of men who receive these best early treatment options will relapse with incurable disease within as little as five-years. This is likely due to prostate cancer cells that escaped from the confines of the prostate (metastatic) before diagnosis and treatment.

Testosterone and other male hormones cause genetic signals that are essential for the progression of prostate cancer to a life-threatening stage. While testosterone effects are targeted in the treatment of metastatic prostate cancer, these therapies often stop working after a short period of time, and it is not known why.

Researchers have recently found that a gene called PCARC, which normally acts as a brake for testosterone function in the prostate, loses this capacity as the disease becomes metastatic. The initial phase of this project will analyse human prostate cancer samples to document the precise role of PCARC in disease progression and survival, and may potentially aid in diagnosing life-threatening disease.

Next, researchers will couple their capacity to increase or decrease PCARC levels in cancer cells with powerful new genome-wide techniques. This will help to precisely define the complete set of androgen target genes in prostate cancer cells, and the effect of altering PCARC levels.

In the final phase of the project, researchers will scan a library of some 300,000 unique compounds for inhibitors or activators of PCARC. Promising compounds will be tested as potentially new prostate cancer treatments.

Mr Ian Wood, BHP Billiton Vice President Community Relations says, "BHP Billiton is proud to support the Prostate Cancer Foundation of Australia in its quest to reduce the risk of prostate cancer.

With a significant male work force, there is a strong likelihood that prostate cancer will impact the lives of our employees and their families. Our hope is that over the next four-years, the BHP Billiton Young Investigative Research Fellowship awarded to Grant Buchanan will make a valuable contribution towards efforts to develop a cure for this disease."

Dr Grant Buchanan received his PhD in prostate cancer research in 2002 from Flinders University of South Australia. He undertook postdoctoral training at the University of Adelaide and at the University of Southern California in the USA, and has received mentoring from internationally renowned leaders in the prostate cancer field.

Dr Buchanan has held a postdoctoral fellowship from the Cancer Council of South Australia, a Young Investigator Award from the US Department of Defense, and an NHMRC CJ Martin Biomedical Fellowship. He has published 26 research papers in journals including *Cancer Research*, *PNAS*, *Human Molecular Genetics*, *Clinical Cancer Research* and *Journal of Biological Chemistry*.



DR PATRICK HUMBERT



A Prostate Cancer Foundation of Australia research grant, generously supported by Australia Post is funding some exciting research in Melbourne. Dr Patrick Humbert is studying the role of the Scribble gene, and its potential to protect men from prostate cancer.

Ultimately, Dr Humbert hopes his research will provide a better understanding about how the incorrect positioning of prostate cells can occur; and its impact on prostate cancer progression. This may lead to the discovery of new prognosis factors, new chemotherapeutic targets, as well as a better understanding of prostate biology and cancer progression.

It has only recently been recognised that the way cells are positioned in organ tissue (their polarity) can influence the development of cancer. In fact, the incorrect positioning of cells is one of the earliest signs of cancer.

Polarity genes control the positioning of cells, and Dr Humbert and his team have noted that one of these genes, known as Scribble, appears to be found in lower levels in prostate tumours, compared to normal prostates. Scribble chromosome location is also close to a chromosome area that has recently been associated with higher prostate cancer risk.

Dr Humbert proposes that the Scribble gene may be able to protect humans from prostate cancer. Particularly, researchers are hoping to observe how the appearance of the Scribble gene in a prostate tumour may assist in predicting patient survival. The researchers will also look at how lowering levels of Scribble increases the risk of prostate cancer:

Patrick Humbert completed a BSc (Hons) at the University of Western Australia, followed by a PhD at the Walter and Eliza Hall Institute (University of Melbourne).

In 1996, Dr Humbert undertook postdoctoral training in Boston at the Massachusetts Institute of Technology (MIT). Here he made seminal contributions to the understanding of tumour proliferation.

Since 2000, Dr Humbert has run his own research laboratory based at the Peter MacCallum Cancer Centre in Melbourne. Here Dr Humbert and his team study how cell orientation is required for stem cell function, organ formation and cancer:

In 2001, Dr Humbert was awarded a Special Fellowship from the Leukemia and Lymphoma Society of America. He is currently an RD Wright Fellow of the National Health and Medical Research Council of Australia.

DR ANNIKA ANTONSSON



Dr Annika Antonsson is the recipient of the Mazda/Prostate Cancer Foundation of Australia Biomedical Postdoctoral Research Fellowship. Dr Antonsson, a research scientist at the University of Queensland's Diamantina Institute in Brisbane, will now spend three-years investigating the role of human

papillomaviruses (HPVs) in prostate cancer.

Linking a virus to the development of prostate cancer would allow doctors to identify men at risk of developing the disease at a much earlier stage than is currently possible. Early treatment could then stop the disease in its tracks. There is already an effective vaccine for HPV infection, albeit approved only for women. If HPV is a cause of prostate cancer, this vaccine could play a key role in its prevention.

HPVs are double stranded DNA viruses that infect the skin and mucosal surfaces in places like the mouth and vagina. Mucosal HPV types are already believed to cause virtually all cervical cancers, and have also been detected in more than 50 per cent of other anogenital cancers, such as anal cancer:

Prostate cancer, which shares many features with cervical cancer; has also been linked to HPV. Dr Antonsson found DNA from the HPV-18 strain in blood and tissue samples from prostate cancer patients. HPV-18 is also one of the most prevalent HPV types in cervical cancer and DNA from the virus is included in the cervical cancer vaccine currently given to Australian schoolgirls.

Dr Antonsson now plans to test for HPV in blood samples from healthy volunteers and then compare the results with the samples from prostate patients.

As her research progresses, Dr Antonsson will investigate if HPV circulates in the blood in immune cells, or as free virus particles and what tissue and cell types it infects. She will also find out if HPV can grow in prostate cell lines outside the human body, an important step if the virus is to be studied in more detail in the laboratory.

Dr Antonsson believes that if HPV is involved in the development of prostate cancer, it may be through a hit and run mechanism. This means the virus triggers the cancer, but then dies off. It is a situation quite unlike most other viral diseases such as AIDS where the virus needs to be present all the time. Dr Antonsson now plans to investigate the proposed hit and run mechanism in detail.

Born in Sweden, Dr Antonsson graduated from Lund University. She has also studied at University College Cork in Ireland, Tampere School of Public Health in Finland and Belgium's Rega Institute. Since 2003, she has been a leading researcher at the Diamantina Institute for Cancer, Immunology and Metabolic Medicine at the University of Queensland.



PCFA'S ONGOING COMMITMENT TO RESEARCH

To maintain the momentum that has been generated in the area of prostate cancer research, PCFA is committed to funding new projects on an annual basis.

THE GRANTS AVAILABLE INCLUDE:

- Young Investigator grants of up to \$125,000 per annum for up to four-years. These grants support scientists (regardless of their degree) who have demonstrated research ability and who are now ready to become independent investigators.
- Concept grants of up to \$150,000 per annum for up to two-years to support senior investigators not currently studying prostate cancer, but who can bring innovative research proposals or new technology to the field.
- Project grants of up to \$125,000 per annum for up to three-years. These grants encourage rigorous proposals for research that will provide direct, tangible benefits to patients with prostate cancer in a relatively short timeframe.
- Equipment grants of up to \$100,000 to be allocated to investigators currently working in the prostate cancer field. Preference will be given to proposals with matching funding.

PCFA'S PRIORITY AREAS FOR RESEARCH ARE:

- Discovery of the genetic and cellular factors which initiate and/or perpetuate prostate cancer;
- Discovery, development and clinical validation of:
 - new tests to detect prostate cancer; and/or to determine whether a patient's cancer is curable;
 - new biomarkers that predict the future clinical course of prostate cancer and/or the response to future chemotherapy;
- Discovery, development and preclinical and clinical validation of novel molecular targets for chemotherapy of locally-invasive or metastatic prostate cancer; including androgen-independent cancers;
- Development of new treatment strategies for prostate cancer; especially locally-invasive or metastatic cancers;
- Projects which, if successful, are likely to provide immediate improvements in the quality of life of patients with prostate cancer.

The grant round is launched in April each year for funding starting the following January. For full details about the program, grant categories and deadlines, visit the PCFA web site, www.prostate.org.au.

THERE ARE MANY WAYS YOU CAN HELP PCFA

Check PCFA's website
www.prostate.org.au
for current fundraising events
in your city.

Workplace Giving
lets employees help
PCFA through a
regular donation,
direct from their pay.
Contact PCFA for an
information kit.

Every dollar
makes a
difference, so
why not make a
donation and help
PCFA continue its
vital work.

Participate in Movember
by growing a 'mo', or
sponsoring a Mo Bro. Visit
www.movember.com
for more information.

Become a corporate supporter. PCFA relies on the generosity of its corporate and community partners to help raise awareness and funds for important projects and initiatives.

Run your own event or fundraising project. It's simple to get started. Just contact PCFA for a Proposal to Fundraise and Guidelines for Fundraising.

PCFA's website www.prostate.org.au lists brands and products that assist the work of PCFA. Wherever possible, purchase those products and know you're helping PCFA.

If you're interested in any of these suggestions, or would like to discuss other ways to support the work of PCFA, please phone PCFA toll free on 1800 22 00 99, or visit www.prostate.org.au.

**PROSTATE CANCER
FOUNDATION OF AUSTRALIA**
ABN: 42 073 253 924

PO Box 1332
Lane Cove NSW 1595

Phone: 1800 22 00 99
Fax: 02 9438 7099
Email: enquiries@prostate.org.au
Web: www.prostate.org.au