



DISCOVERY

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CEO'S COLUMN



Professor Peter Hoj
Photograph courtesy of
Mark Newsham

■ The ARC's Executive Directors (EDs) are one of its greatest assets. They are among Australia's most respected researchers in their fields and draw on extensive Australian and international networks. They are crucial to the operation of the ARC, interacting constantly with the government sector and the research community. And they are uniquely placed to assist researchers

and research users to understand the Government's research objectives and to ensure that the ARC's approaches are aligned with the realities of the research environment and can respond flexibly to changes in those conditions.

Five years ago, however, the role of ARC ED did not exist.

The desirability of appointing 'visiting researchers' to manage the ARC's programs was foreshadowed in the December 1999 white paper *Knowledge and Innovation: A policy statement on research and research training*¹ and came into effect with the introduction of the *Australian Research Council Act 2001* (ARC Act).

The *Knowledge and Innovation* statement outlined sweeping changes to the national competitive grants system. In the paper, the Government stated its wish to see the ARC further develop as a prestigious, nationally focused agency working effectively with members of the broad research community. In addition to continuing the ARC's existing functions, the Government indicated its desire to see

the ARC contributing to national innovation by, among other things:

- helping to form and maintain effective linkages between the research sector and the business community, government organisations and the international community;
- developing and improving public understanding and appreciation of the contribution that research makes to the community; and
- reporting on the comparative performance of Australia with other research-active countries and assessments of the national return on investment in research.

To this end the Government established the new ARC as an independent body pursuant to the ARC Act.

The research community largely welcomed the proposed reforms to the structure of the ARC and the administration of its new program. It was also clear from consultations that Australian researchers looked to the ARC for leadership.

A crucial component of that informed leadership was to be provided through the appointment of program managers for up to three years and a part-time expert advisory committee, with responsibility for:

- overseeing the conduct of the peer review process;
- integrating the views of external reviewers with the views of the advisory committee;

- liaising and communicating with the research community and users of research;
- identifying emerging disciplinary and cross-disciplinary developments and innovative approaches to research; and
- conducting forums and reviews of the state of Australian research in an international context.

The white paper further foreshadowed that the program managers would be supported by their own expert readership base, which was to give recognition to, and

The ARC is uniquely able to formulate policy and advice in the best interests of the research community and the community in general

¹ The Hon. D.A. Kemp, MP (Minister for Education, Training and Youth Affairs), *Knowledge and Innovation: A policy statement on research and research training*, Canberra, December 1999. Available at <http://www.dest.gov.au/archive/highered/whitepaper/default.asp>.

support for, outstanding researchers individually and in teams. The readers were to be selected from leading researchers in their field, including international experts. This was to ensure that there was a stronger international perspective in the judgments made.

For those familiar with the operation of the ARC in its current form, it is clear that all these intentions have been realised. In particular, the foreshadowed program managers are today's six discipline-based EDs, the part-time advisory committee is our College of Experts and the expert readership base comprises our Australian and international readers (Oz and Int Readers).

I have been at the ARC for only 18 months, but it took me very little time to realise what a privilege it is to work with six discipline-based EDs who have been selected not only for their expertise and standing, but also for their capacity and willingness to operate in an administrative environment. Add to that the administrative and policy experience provided by our career public service colleagues and we have a melting pot that is stimulating and uniquely able to formulate policy and advice in the best interests of the research community and the community in general.

Since the introduction of the ARC Act in 2001, the ARC has employed 13 EDs:

- **Professor Margaret Clayton**—Biological Sciences and Biotechnology (March 2006-present)
- **Professor Lawrence Cram**—Physics, Chemistry and Geoscience (March 2001–February 2004)
 - Now Deputy Vice-Chancellor (Research), The Australian National University
- **Professor Alan Johnson**—Biological Sciences and Biotechnology (January 2003–January 2006)
 - Now Deputy Vice-Chancellor (Research), The University of Adelaide
- **Professor Doug McEachern**—Social, Behavioural and Economic Sciences (February 2001–October 2003)
 - Now Pro Vice-Chancellor (Research and Innovation), The University of Western Australia
- **Dr Ian Mackinnon**—Engineering and Environmental Science (January 2006–present)
- **Professor Elim Papadakis**—Social, Behavioural and Economic Sciences (November 2003–present)
- **Professor Ian Petersen**—Mathematics, Information and Communication Sciences (February 2002–February 2004)
 - Position on leaving the ARC: Acting Deputy Vice-Chancellor (Research), The University of New South Wales
 - Now ARC Professorial Fellow, Information Technology and Electrical Engineering, School of the Australian Defence Force Academy
- **Professor Sue Rowley**—Humanities and Creative Arts (February 2001–June 2004)
 - Now Pro-Vice-Chancellor and Vice-President (Research), University of Technology Sydney
- **Professor Bill Sawyer**—Biological Sciences and Biotechnology (February 2001–February 2003)
 - Now Emeritus Professor at the University of Melbourne and an enthusiastic vigneron

- **Dr Mandy Thomas**—Humanities and Creative Arts (June 2004–present)
- **Professor Ah Chung Tsoi**—Mathematics, Information and Communication Sciences (February 2004–December 2005)
 - Now Director, e-Research Centre, Monash University
- **Dr Stephen Walker**—Engineering and Environmental Science (February 2001–February 2006)
 - Now Professor and Executive Dean for Engineering, Physical Sciences and Architecture, The University of Queensland
- **Professor Erich Weigold**—Physics, Chemistry and Geoscience (February 2004–March 2006)
 - Now Deputy Vice Chancellor (Research), La Trobe University

This listing suggests two conclusions.

First, a stint as a discipline-based ED at the ARC is clearly a turbocharger for further career development, as it has almost invariably been followed by appointment to a senior management position in Australia's university sector. Indeed, our EDs are approached by eager recruiters on an ongoing basis. While this presents a significant management issue for the ARC, it is also gratifying. It demonstrates to prospective new EDs that a term at the ARC can be a rewarding step towards further progression in a university management structure.

Working at the ARC gives EDs a unique opportunity to observe in detail the strengths, weaknesses and opportunities in Australian research across all our discipline clusters and offers a rare insight into the multitude of considerations that need to be taken into account before certain crucial decisions can be taken and implemented. It is often a humbling experience.

Second, the ARC currently needs to hire new incumbents for the ED positions in Physics, Chemistry and Geoscience and Mathematics, Information and Communication Sciences. While many traditional academics may see such a career move as daunting and many employers may not want to encourage their best employees to apply for such jobs, the flip side is that the ARC—and therefore Australian research—will benefit from a continuation of this strong model for research funding management.

It follows that I enthusiastically support a continuation of the ARC's ED model. I do this with the benefit of having seen the system from the inside. Those looking in from outside might seek a stronger evidence base before drawing the same conclusion. I applaud the value of repeated observations and replication.

I therefore ask that our readers spread the word and allow us to continue this successful 'experiment' by encouraging suitable candidates to seek a term as a discipline-based ED at the ARC. My gut feeling is that my enthusiasm for the model will be shared by everyone who is able to see it in action.

Yours sincerely

Professor Peter Høj



Croc Hunter and academics join forces

■ **Passionate conservationist and international personality Steve Irwin, aka the ‘Crocodile Hunter’, his team at Australia Zoo and their ARC Linkage Projects collaborators from The University of Queensland (UQ) and the Queensland Parks and Wildlife Service are committed to better understanding the behaviour of crocodiles.**

Mr Irwin, UQ’s Professor Craig Franklin and Qld Parks and Wildlife Service’s Dr Mark Read are collaborating to increase our knowledge of crocodiles by remotely tracking their movements using state-of-the-art satellite transmitters.

GPS systems and time-depth recorders monitor both the surface location and natural diving patterns of one- to five-metre crocodiles as they move between freshwater and marine habitats. Using glue, the researchers attach the satellite tracking equipment to the large scales of the nuchal shield between the crocodiles’ shoulders in a minor surgical procedure.

“The project will greatly improve our understanding of crocodile behaviour, especially resident crocodiles in urban areas that pose a threat to communities such as Weipa on the Cape York Peninsula. It will also help us to promote the effective conservation of crocodiles

through education and research,” Professor Franklin says.

Dr Read is delighted about the partnership, claiming Mr Irwin’s and Australia Zoo’s crocodile expertise and support will be invaluable in helping to achieve the project goals.

“Steve and the team from Australia Zoo are very skilled at crocodile catching and make the job of catching and tagging the crocodiles with the satellite transmitters so much easier,” he says.

The project links Steve Irwin’s passion for crocodile conservation with Craig Franklin’s and Mark Read’s research skills

“Determining the movement patterns of crocodiles and examining whether they regularly use urban areas and travel around man-made structures is critical for effective management of this potentially dangerous yet vulnerable protected species.”

Former ARC Executive Director Professor Alan Johnson, who met the team during a planning session on the Sunshine Coast, says it was excellent to see the ARC’s *Linkage Projects* scheme working so successfully ‘in the field’.

“The project links Steve Irwin’s passion for crocodile conservation with Craig Franklin’s and Mark Read’s research skills. It’s a great example of how ARC funding can encourage research linkages with partners on a research area that benefits the community,” Professor Johnson says.

More information:

Professor Craig Franklin
The University of Queensland
Email: c.franklin@uq.edu.au



Top left: Dr Mark Read; Professor Alan Johnson; Steve Irwin, holding one of the transmitters; and Professor Craig Franklin.

Below: Agro, Australia Zoo’s fiercest crocodile. Photographs by Norman Plant

GOODBYE & GOOD LUCK

■ **The ARC's executive directors play a pivotal role in leading, driving, managing and anticipating changes in the Australian research environment in their endeavours to achieve the ARC's mission to *Advance Australia's research excellence to be globally competitive and deliver benefits to the community.***

In the interests of ensuring that the best and most innovative ideas are funded and providing enhanced opportunities

for benefits of excellent research to flow to the Australian community as economic, social, cultural and environmental advantages, it is important that the ARC regularly review its schemes and refresh its focus.

In this issue of *Discovery* we say farewell to four valued ARC executive directors, whose careers are all benefiting from having worked at the ARC, and welcome two new faces to the team.

■ Dr Stephen Walker



Dr Stephen Walker left the ARC in February 2006 after five years as Executive Director for Engineering and Environmental Sciences, for the position of Professor and Executive Dean for Engineering, Physical Sciences and Architecture at the University of Queensland.

Dr Walker had been at the ARC since its formation as an independent agency in 2001 and was instrumental in guiding improvements in many of its policies and practices. Highlights of his time with the ARC include:

- leading the *Linkage Projects* scheme, encouraging broad and high-value collaborations between the higher education sector and other parts of the national innovation system
- leading the ARC as Acting CEO from mid-May to end-September 2004
- advocating for, and promoting, the diverse areas of engineering and environmental sciences
- participating in the formation of the National Collaborative Research Infrastructure Strategy.

"It has been a real pleasure working with everyone at the ARC and in the research community. I have greatly valued my time here," Dr Walker said.

"This organisation, and its efforts, are pivotal in maintaining Australia's creativity and innovation in many fields. They enable a wealth of talent in Australian research to continue to push forward the boundaries of knowledge, understanding and application, and to remain effective and competitive in the global research scene."

Photograph by Ann Paterson

■ Professor Alan Johnson



Professor Alan Johnson became the Deputy Vice-Chancellor Research at The University of Adelaide in February this year after three years as the ARC's Executive Director, Biological Sciences and Biotechnology.

Among his many achievements at the ARC, Professor Johnson will be

remembered particularly for his contributions to:

- developing and implementing the feedback histogram to give unsuccessful *Discovery Projects* applicants a more detailed analysis of proposal assessments than previously offered
- improving ARC Funding Rules—a strong collaborative effort involving significant work by the ARC's Director of Program Coordination, Mary Burton, is leading to more consistent and 'user-friendly' Funding Rules
- espousing the value of biological research throughout the research community and encouraging groups to collaborate in efforts to foster multi-million dollar technology programs such as genome sequencing.

Professor Johnson is grateful to his colleagues at the ARC and in the sector for an exciting three years.

"I have learned a great deal during my time here and greatly appreciate the friendship and teamwork provided over a period that seems to have raced by very quickly," he said.

"Working with the ARC's *Discovery Projects*, *Thinking Systems* and *Linkage International* teams has been especially rewarding."

Photograph by Norman Plant

GOODBYE & GOOD LUCK

■ Professor Ah Chung Tsoi

Professor Ah Chung Tsoi left the ARC in December 2005, after almost two years as Executive Director, Mathematics, Information and Communication Sciences, to become Director of the e-Research Centre at Monash University.

Professor Tsoi oversaw the ARC's *Linkage Infrastructure, Equipment and Facilities* scheme and initiated and developed the ARC's 2005 e-Research Support pilot scheme. Before introducing the scheme, he consulted extensively—touring Australia and inviting submissions from the research sector—to help inform its development under the ARC's Special Research Initiatives. The ARC funded 37 projects under the one-year pilot scheme.

He also played an instrumental role in planning and conducting the September 2005 OECD Global Science Forum workshop on grids and basic research programs attended by 60 delegates from more than 20 countries.

Professor Tsoi represented the ARC on the Government's e-Research Coordination Committee, which oversees e-Research policy, and the Department of Education, Science and Training's Australian Research Information Infrastructure Committee and Australian Research and Education Network.



Photograph by David Hine

■ Professor Erich Weigold

Professor Erich Weigold left the ARC in late March 2006 after more than two years as Executive Director for Physics, Chemistry and Geoscience (PCG), to become Pro Vice-Chancellor (Research) at La Trobe University.

As well as interacting with the research community and advising on the diverse areas of physical sciences such as astronomy, chemistry, geosciences, nanoscience, nanotechnology and physics, highlights of Professor Weigold's time at the ARC include:

- leading a new ARC Centres of Excellence funding round in 2004-05, resulting in the establishment of 11 new ARC Centres of Excellence
- leading the ARC's Centres Scheme, which involved overseeing the Key Centres for Teaching and Research, Special Research Centres, ARC Centres, ARC Centres of Excellence and the three co-funded Centres, namely National ICT Australia or 'NICTA', the Australian Stem Cell Centre, and the Australian Centre for Plant Functional Genomics
- organising and participating in reviews of many of the Centres and examining in detail the outstanding work carried out by them
- helping to improve the ARC Funding Rules and other ARC processes, an ongoing activity involving all the senior management team
- briefly overseeing the ARC's *Linkage Infrastructure, Equipment and Facilities* scheme.

"I have enjoyed my time at the ARC, which has been very rewarding," Professor Weigold said. "Although a bit of a grind at times, one of the most rewarding aspects has been overseeing, for proposals in the PCG discipline cluster, the thorough and detailed assessment process and working closely on this with members of the ARC's College of Experts.

"It's been a pleasure to work with them and the ARC staff, from the CEO on down. They are very professional people who work very hard to ensure that, within the given funding constraints, Australia's research capacity is maximised over the broad range of disciplines supported by the ARC. The primary emphasis in supporting research has always been, and continues to be, on the excellence of the research proposed.

"I must conclude by saying that I am particularly grateful for the unstinting support given to me by the overstretched and overworked Centres and PCG team."

Photograph by David Hine



ARC attracts high-calibre academic leaders

■ Dr Ian Mackinnon



Dr Ian Mackinnon took up the position of Executive Director, Engineering and Environmental Science at the ARC in January this year. Dr Mackinnon has a wealth of experience in academia and industry, previously as Professor at The University of Queensland and more recently as Executive Director of a technology start-up company.

He has spent 25 years as a researcher and research leader in university, government and commercial organisations in Australia and the USA. During that time, he has been awarded more than 25 research and development grants in a range of fields including advanced materials, chemistry, mineralogy, cosmochemistry and wastewater treatment and authored more than 100 publications in the peer-reviewed literature.

Among his career highlights, Dr Mackinnon lists forming and leading successful technology development and commercialisation teams in new materials, managing a technology start-up company from initial phase to market sales and establishing the Centre for Microscopy and Microanalysis at The University of Queensland.

"I look forward to encouraging excellence in Australia's research and using my experience in academia and industry to assist with the ARC *Linkage Projects* scheme," Dr Mackinnon says.

Dr Mackinnon has a BSc (Hons) in geochemistry from James Cook University. He undertook his research work for a PhD in crystallography (James Cook) at the Australian Nuclear Science and Technology Organisation, Lucas Heights, via an Australian Institute of Nuclear Science and Engineering fellowship. He is a member of the Mineralogical Society of America, the Clay Minerals Society of America and the Australian Water Association.

■ Professor Margaret Clayton



Professor Margaret Clayton, whose most recent positions have been Associate Dean (Research) and Deputy Dean, Faculty of Science, at Monash University, joined the ARC in March 2006 in the position of Executive Director, Biological Sciences and Biotechnology.

Professor Clayton is a marine biologist. Her research helped to change the view, prevalent up to the 1980s, that many marine algae lacked sexual reproduction. This led to collaborative research with Professors D.G. Müller and W. Boland, which isolated and identified the active compounds and determined the sensitivity of sperm attractants secreted by the eggs in 12 species.

Professor Clayton is widely published in the peer-reviewed literature and has received substantial competitive grant funding during her more than 30 years in research.

In 2000, her group at Monash University completed an ARC-funded collaborative research project with Melbourne Water that investigated the effects of individual water pollutants on juvenile seaweeds. The results of this research helped to inform the water quality guidelines for effluent discharged at Cape Schanck, Victoria.

"I have the highest possible regard for the role of the ARC and it is a great privilege for me to be able to work for the organisation," Professor Clayton says.

"Coming to the ARC after many years as a researcher and teacher in the university sector, I have a passionate interest in the future of the National Competitive Grants Program and in its key role of ensuring that research and research training in Australia meet the highest possible international standards of excellence at the same time as supporting innovative researchers and teams who are employing the latest approaches and technologies in their research, breaking new ground and challenging existing ideas."

Professor Clayton has participated in two expeditions to Antarctica and published a monograph and several papers on the biology of Antarctic marine benthic algae with Professor C. Wiencke. In 2002, she worked with a team of researchers at Koldewey Arctic Research Station investigating the physiological responses of kelps to elevated ultraviolet-B radiation.

Professor Clayton has a BSc (Hons) from Liverpool University, a PhD from The University of Melbourne and a Diploma of Education from Monash University. She has been a member of various professional committees and associations, including the Executive Council of the International Phycological Society, and has supervised more than 50 Honours and PhD students and postdoctoral fellows.

"World-class research is increasingly cross-disciplinary and my experience as Associate Dean (Research) in a broadly based Faculty of Science has made me acutely aware of the expanding opportunities for cross-disciplinary collaboration involving the biological sciences and biotechnology.

"I look forward to being able to promote and facilitate cross-disciplinary research," she says.

Photographs by Norman Plant

Metals and the ageing brain

■ **Human life expectancy has increased dramatically with advances in health research and treatments but, for some people, living longer brings with it ‘new’ and severe medical challenges.**

As the population ages, neurodegenerative diseases such as Alzheimer’s and Parkinson’s become more common. In Australia, Alzheimer’s disease accounts for about 85 per cent of all cases of dementia, is the most common diagnosis in a nursing home, and is the fifth leading cause of death for persons aged 65 and over.

Mild forgetfulness troubles many people in late middle age. ARC Federation Fellow Professor Ashley Bush, from the Mental Health Research Institute of Victoria, believes that about 50 per cent of ‘normal’ people over the age of 50 have got some microscopic changes characteristic of Alzheimer’s disease in their brains. However, there is no diagnostic test to detect this and no cures or means to slow down the progression in many people to symptomatic disease.

No-one is known to be immune to Alzheimer’s disease and, although lifestyle and genetic risk factors have been identified, there are no known means of preventing the disease, largely because the basic neurochemistry that underlies age-related brain damage is not yet understood.

Professor Bush is researching the way the human body both maintains and destroys itself, and the role played in these processes by metals in the brain.

Metals are essential for life. Many metals which are present in living creatures, including zinc, copper and iron, are highly enriched in the brain. Throughout nature, 30 per cent of proteins encoded by genes are metalloproteins—that is, they require the presence of a metal ion to perform their vital cellular functions.

“The foundation of my laboratory’s effort is the discovery that the major proteins implicated in Alzheimer’s disease, A-beta and the amyloid protein precursor, are copper-zinc metalloproteins whose properties are profoundly influenced by interaction with metal ions,” Professor Bush says.

In fact, many of the body’s vital processes are mediated by metals. As our cells take up metals to enable them to perform their normal functions, oxygen free radicals are released. These toxic free radicals are mopped up by anti-oxidants produced by the body’s defence system.



However, when the production of free radicals exceeds the body’s ability to mop them up, oxidative stress sets in and a variety of degenerative diseases may result.

When the brains of Alzheimer’s disease patients are examined post mortem under the microscope, there is clear evidence of long-term damage resulting from oxidative stress.

“In recent years, we have shown that the interaction of A-beta with iron and copper engenders a series of pernicious metal-mediated reactions that typify Alzheimer’s disease brain damage,” Professor Bush says.

“My research group discovered that when binding iron or copper, A-beta produces hydrogen peroxide, which can be neutralised by agents that interfere with the binding of these metals. This approach has led to successful pilot studies, one of which has been demonstrated to arrest cognitive decline and lower plasma A-beta levels in Alzheimer’s patients.”

Professor Bush is now conducting research to rigorously test the free radical theory of ageing and which may provide the first evidence that the ageing rate can be reduced in a mammal by pharmacological intervention. He will also test whether the chemical origin of age-related radical attack is the accumulation of redox active metals, which would offer a new pharmacological target that could prevent radical damage at its chemical origin.

“We predict this would be more therapeutically efficient than mopping up radicals after they are generated,” he says.

When the production of free radicals exceeds the body’s ability to mop them up, oxidative stress sets in and a variety of degenerative diseases may result

Professor Bush is now conducting research... which may provide the first evidence that the ageing rate can be reduced in a mammal by pharmacological intervention

COLLEGE OF EXPERTS

New College of Experts members

■ **The ARC College of Experts supports the advancement of knowledge and contributes to national innovation through its role in assessing and ranking ARC grant applications submitted under the National Competitive Grants Program; making funding recommendations; and providing strategic advice on emerging disciplines and cross-disciplinary developments.**

The College's 75 members are drawn from a multitude of disciplines in the Australian research community—from higher education, industry and public sector research organisations. They are drawn together flexibly to form groupings of expertise to meet particular needs at different times, such as cross-disciplinary or program-based groupings.

Members of the College of Experts are appointed for periods of between one and three years.

A full list of the members of the ARC's College of Experts is available at http://www.arc.gov.au/about_arc/expert.htm. New members in 2006 are listed (right).

Professor Trevor Bird
CSIRO – ICT Centre

Professor Neil Brewer
School of Psychology
Flinders University

Dr Barry Brook
School for Environmental Research
Charles Darwin University

Professor Allan Chivas
School of Earth and Environmental
Sciences
University of Wollongong

Associate Professor Wayne Cook
School of Physics and Materials
Engineering
Monash University

Professor Stephen Crain
The Macquarie Centre for Cognitive
Science
Macquarie University

Professor Stephanie Donald
Institute for International Studies
University of Technology, Sydney

Dr Michael Green
Indigenous Culture Department
Museum Victoria

Dr Peter Hammond
School of Physics
The University of Western Australia

Associate Professor Lloyd Hollenberg
School of Physics
The University of Melbourne

Professor Michael Jennings
School of Molecular and Microbial
Sciences
The University of Queensland

Mr Maxwell Kimber
M.J. Kimber Consultants Pty Ltd

Professor Peter McDonald
Demography and Sociology Program
The Australian National University

Professor Harvey Marchant
Department of Earth and Marine Sciences
The Australian National University

Professor Hugh Possingham
The Ecology Centre
The University of Queensland

Dr Bonni Reichelt
Genesearch Pty Ltd

Professor Michael Rosemann
School of Information Systems
Queensland University of Technology

Associate Professor Jeffrey Schwartz
School of Molecular and Biomedical
Science
The University of Adelaide

Professor Krishna Sen
Division of Humanities
Curtin University of Technology

Professor Matthew Spriggs
Centre for Archaeological Research
The Australian National University

Mr Glenn Wightwick
IBM Australia

Professor Mary-Anne Williams
Innovation and Technology Research
Laboratory
University of Technology Sydney

Professor Aibing Yu
The Centre for Computer Simulation and
Modelling of Particulate Systems
The University of New South Wales

Metals and the ageing brain

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The work of Professor Bush and his colleagues in deciphering the role of metals in the Alzheimer's story has ramifications for other fields of neuroscience.

"If we succeed in preventing the onset of Alzheimer pathology in the mouse model, the basic data set achieved might be applicable to several other age-dependent degenerative disorders. For example, recent findings have indicated that there is evidence of severe oxidative injury to the brain in people with schizophrenia," he says.

Professor Bush's research on the pivotal roles that zinc and copper in the brain play in Alzheimer's disease paves the way for exploring the importance of metalloproteins in health and disease.

More information:

Professor Ashley Bush

Tel: 03 9389 2962

Email: abush@mhri.edu.au

ACPFPG forms research partnership with DuPont company

■ The Australian Centre for Plant Functional Genomics Pty Ltd (ACPFPG) has signed a major research agreement with Pioneer Hi-Bred International Inc, a Du Pont company based in Iowa, USA, that will give scientists working on cereal crops in both countries access to the best science available.

Improving a plant's ability to cope with abiotic stresses, such as drought, is a major target of the collaboration between the ACPFG and Pioneer. Three projects have been identified so far.

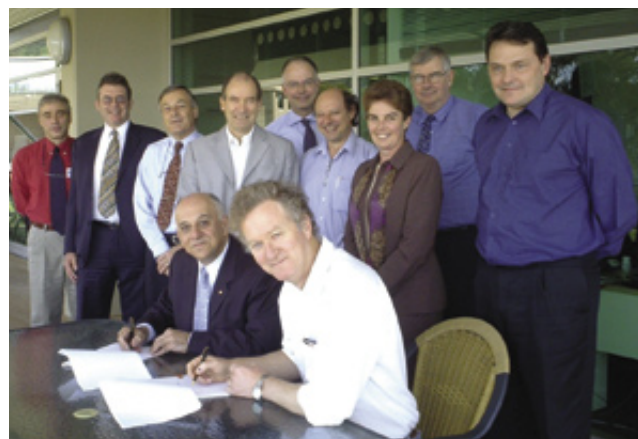
The first will research nitrogen use efficiency. The aim is to develop crop varieties that are more efficient in their use of nitrogen fertilizers, benefiting the environment and reducing costs for farmers.

The second project will investigate how plants manufacture cellulose, which is the major component of their cell walls. This will further understanding of how crops resist storm damage and how cellulose can be used, as a residue in straw, as an animal feed or a biofuel.

The third project will focus on drought. Since different plants react to drought in different ways, the aim is to identify effective coping mechanisms within plants. By understanding how crops respond, drought tolerance can be improved.

The terms of the agreement give the ACPFG commercial rights to the collaboration's research outcomes for use with wheat and barley, while Pioneer will have rights to research outcomes for use with maize and soybean.

The ACPFG is an ARC Centre of Excellence, co-funded by the Grains Research Development Corporation and the South Australian Government. It was founded in 2002. Since then it has grown to become one of the largest genomics research facilities in the southern hemisphere.



"The deal with Pioneer is the first major agreement with a large US commercial company for the ACPFG," Professor Peter Langridge, ACPFG's Chief Executive Officer, says.

"It is a great achievement given that we've been operating for less than three years."

Pioneer Hi-Bred International is one of the world's largest plant breeding companies and is well recognised for research excellence in its field. As a result of the Pioneer deal, at least a dozen new scientists are expected to join the 100 already working at the ACPFG, reinforcing the company's position as an internationally recognised crop genomics research facility.

The ACPFG already attracts world-class researchers.

Professor Mark Tester, a leading expert in the development of salt-resistant crops, took up an ARC *Federation Fellowship* at the ACPFG in 2003.

"There is considerable scientific synergy between Pioneer and the ACPFG and we expect that this will be an important collaboration that will grow into new areas over time.

"The deal adds a whole new dimension to our research, giving it access to the research facilities and capabilities of one of the largest commercial crop improvement programs.

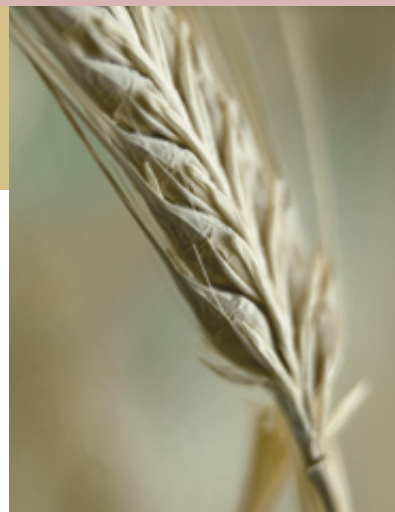
"It is also making a huge difference for us when we look for funding from other sources, both in Australia and overseas, because we already have a commercial partner lined up. It is attractive for investors," Professor Langridge says.

The ARC is providing the University of Adelaide with \$10 million in research funding to establish and operate the ACPFG. In November 2005, the University of Adelaide/ACPFPG staff received additional funding under the *Linkage Projects* scheme.

Left: Standing l to r: Dr Andreas Betzner, Grains Research Development Corporation; Professor Neville Marsh, former Deputy Vice Chancellor (Research), The University of Adelaide; Professor Erich Weigold, former ARC Executive Director; Professor Geoff Fincher ACPFG Deputy CEO; Dr Martin Miller, Bio Innovation SA; Professor Tony Bacic, The University of Melbourne; Professor Kaye Basford, The University of Queensland; Dr Alan Harrison, Agriculture Victoria Services; Professor German Spangenberg, Department of Primary Industries, Victoria.

Sitting l to r: Mr Nick Begakis AM, ACPFG Chair; Professor Peter Langridge, ACPFG CEO.

Photographs courtesy of the Australian Centre for Plant Functional Genomics



Social sciences collaboration pilot

■ **The ARC and the Economic and Social Research Council of the United Kingdom (ESRC) have entered into an agreement to foster and support collaborative social science research in Australia and the UK.**

The ESRC is the UK's leading research funding and training agency addressing economic and social issues. Australia has a long association with collaborative research in the UK but this is the first bilateral agreement with a prestigious major research agency in the UK targeting the social sciences.

Under the Agreement, the ARC and the ESRC will encourage, welcome and support counterpart applications which may cross national boundaries and involve internationally collaborative teams. High-quality and competitive single- or cross-disciplinary applications will be encouraged, including applications which, while primarily social science, may overlap with disciplines outside the social sciences.

For example, it is anticipated the initiative will bring together Australian and UK researchers in disciplines such as economics,

economic and social history, political science, socio-legal studies, education, psychology, cognitive studies, linguistics, management and business studies, human geography, environmental planning, international studies, area and development studies, social statistics, demography, social science computing, sociology, social anthropology, social policy and social work.

In Australia, the *Social Sciences Collaboration* pilot will be formally conducted under the ARC's *Linkage International* scheme, while counterpart UK proposals will be considered by the ESRC's *Small Grants* funding scheme.

The ARC may award a maximum of \$250,000 to a project for between one and five years. The initial round of proposals is expected to open for submissions in April 2006 and will close at 5.00pm AEST on Friday, 2 June 2006.

More information for Australian-based researchers will be available at www.arc.gov.au closer to the opening date. UK-based researchers should visit <http://www.esrc.ac.uk> for more information.

NEWS IN BRIEF

■ The *Linkage Projects* Funding Rules for funding commencing in 2007 are available on the ARC web site at http://www.arc.gov.au/apply_grants/linkage_projects.htm. Significant changes to the Funding Rules since last year are highlighted in Section 2.

The closing time for submission of applications for *Linkage Projects* Round 1 is 5:00pm AEST on Friday, 5 May 2006. Round 2 will close at 5:00pm AEDT on Friday, 24 November 2006.

■ New web pages at http://www.arc.gov.au/gams_login/default.htm contain general information and tips for using GAMS; requesting GAMSIDS; GAMS compatibility with various combinations of hardware, browser software and operating systems; and specific information for university research office staff as points of contact for GAMS for their organisation.

■ The ARC and the NHMRC, in association with the Australasian Research Management Society, are planning to host a Research Administrators Seminar in Canberra on 7-8 June 2006. More information about the seminar, including an agenda and how to register, is available from Ms Liz Visser by telephone on 02 6287 6603 or email at liz.visser@arc.gov.au.

■ The *Linkage International* Funding Rules for Proposals for Submission in 2006 are available on the ARC web site at http://www.arc.gov.au/apply_grants/linkage_international.htm. Significant changes to the Funding Rules since last year are highlighted in Section 2.

Closing dates for submission of proposals are as follows:

- *Linkage International Awards* Round 1: 5:00pm AEST Wednesday, 5 April 2006
- *Linkage International Awards* Round 2: 5:00pm AEST Friday, 14 July 2006
- *Linkage International Awards* Round 3: 5:00pm AEST Friday, 13 October 2006
- *Linkage International Fellowships*: 5:00pm AEST Friday, 14 July 2006

Internationally Coordinated Initiatives:

- *Social Sciences Collaboration* (between the ARC and the Economic and Social Research Council of the United Kingdom): 5:00pm AEST Friday, 2 June 2006
- *Materials World Networks* (collaboration between the ARC and the US National Science Foundation): 5:00pm AEST Friday, 13 October 2006

■ The *Linkage Infrastructure, Equipment and Facilities* (LIEF) Funding Rules for funding commencing in 2007 are available on the ARC web site at http://www.arc.gov.au/apply_grants/linkage_infrastructure.htm. Significant changes to the Funding Rules since last year are highlighted in Section 2.

The closing time for the submission of LIEF applications is 5:00pm AEST on Friday, 26 May 2006.

Valuing local assets makes good cents

■ Facilities managers around Australia have a new management tool at their disposal—a web-based portal developed and commercialised by Swinburne University of Technology researchers that enables cities and shires to better manage council facilities.

Designed primarily for local councils, but able to be adapted for other organisations, the Logometrix system allows users to manage service-based facilities such as libraries, childcare facilities and community centres using six strategic indicators: physical, services, community, financial, use and environment. Organisations can weight these factors differently and then benchmark their results online against those of other councils.

Development of the portal was funded by nine participating local councils, two industry partners and an ARC *Linkage Projects* grant awarded in 2001. Researchers included Nicola Brackertz from Swinburne and Professor Russell Kenley from Unitec New Zealand.

“Logometrix differs from traditional facilities management software because it allows councils to incorporate the needs of multiple stakeholders and changing environmental, political and social demands into their evaluations,” Ms Brackertz says.

Logometrix is now fully commercialised and used in seven Victorian councils and the Auckland City Council in New Zealand

“Often in local government, the information relating to the management of buildings and services was dispersed across many departments and this prevented everyone within a council from having a say. Some councils found themselves with more town halls and libraries than they knew what to do with.

“They needed a way of evaluating these facilities to work out how best to manage them and where the service needs were. So we came up with a software application that allowed them to collect all information centrally.”

The Logometrix system allows all the stakeholders within a council to have input into the management of facilities and services. Assessment is facility-based, so that all services provided at any building or location, which may have multiple users, can be evaluated.

“Among other things, information from the Logometrix system has been used by councils to inform policies on environmental and community issues,” Ms Brackertz says.



From l to r: Ms Nicola Brackertz, Swinburne’s Institute for Social Research; Professor Russell Kenley, Unitec New Zealand; Vice Chancellor Professor Ian Young, Swinburne University of Technology; and Mr Bruce Whan, Director, Swinburne Knowledge (which handles commercialisation of Swinburne research). Photograph courtesy of Swinburne University of Technology

Logometrix is now fully commercialised and used in seven Victorian councils and the Auckland City Council in New Zealand. The product is managed by Logometrix Pty Ltd, which operates under licence from a joint venture, allowing its researchers to continue to benefit from the research. The company is canvassing interest in the product in other overseas marketplaces.

More information:

Ms Nicola Brackertz
Institute for Social Research
Swinburne University of Technology
Tel: 03 9214 5609
Email: nbrackertz@swin.edu.au

New Minister

■ **Ms Julie Bishop has been appointed by Prime Minister John Howard to the position of Minister for Education, Science and Training.**

Ms Bishop's immediate past position was Minister for Ageing. Before entering Parliament, she was Managing Partner of national law firm Clayton Utz in Western Australia. She has been Chair of the WA Town Planning Appeals Tribunal, a member of the Murdoch University Senate and a member of the board of the Anglican Schools Commission, and a director of SBS (TV and Radio) Corporation.

Ms Bishop was an Ambassador for the Muscular Dystrophy Association of WA, on the Council of Governors of the Lions Ear and Hearing Institute, a patron of CanTeen, a vice patron of Westcare Incorporated, and a member of the Board of the Cancer Foundation WA.

In 1978, Ms Bishop completed a Bachelor of Laws at the University of Adelaide and in 1996 attended Harvard Business School in Boston, where she completed the Advanced Management Program for Senior Managers. She is a Fellow of the Australian Institute of Management.



In addition to her education, science and training responsibilities, Ms Bishop is Minister assisting the Prime Minister for Women's Issues.

For more information, visit <http://www.aph.gov.au> or <http://www.julie-bishop.com/>.

SUBMITTING ARTICLES

The ARC welcomes suggestions and articles for *Discovery*. Articles may be edited for style and/or length. Edited articles are referred to authors before publication for correction and feedback. There is no guarantee that all submitted articles will be published. Submissions should be sent to fiona.skivington@arc.gov.au

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CONTACT INFORMATION

AUSTRALIAN RESEARCH COUNCIL
 1st Floor, 8 Brindabella Circuit
 Brindabella Business Park
 Canberra Airport ACT 2609
 GPO Box 2702, Canberra ACT 2601
www.arc.gov.au

GENERAL INQUIRIES
 Tel: +61 2 6287 6600 | Fax: +61 2 6287 6601
info@arc.gov.au

NATIONAL COMPETITIVE GRANTS PROGRAM
ncgp@arc.gov.au

www.arc.gov.au