

## *Brain, movement and dance*

Back in the 1960s, Dave Brubeck, the American jazz pianist and composer, recorded a track called 'Unsquare Dance' which used a complex time signature that was almost impossible to dance along with, at least in a conventional style! Still, it became one of his most popular pieces. Over the last few years, we have seen the huge revival of interest in ballroom dancing. Dancing is a feature of all human societies and probably has been at the centre of social intercourse for millennia. Why should this be? Why do we dance? How do we dance? What is going on in our brains as we throw our bodies into the gyrations of a tango, a swirling waltz, or develop the exquisite balance and flexibility required of a ballet pas de deux? On the other hand, why don't we dance in supermarkets?

To find out, more than 350 patrons came along to a 'Science Outside the Square' event at the Governor Hindmarsh Hotel on 31 August. Sponsored by the South Australian Neuroscience Institute, *The Advertiser* and the SA Government, the event featured presentations, discussions and performances from Marcello Costa, Professor of Neurophysiology and Ian Gibbons, Professor of Anatomy and Histology, both from Flinders University School of Medicine, and distinguished choreographer, Leigh Warren. Discussion was facilitated by Julianne Pierce, currently from the Department of the Premier and Cabinet, and supported with demonstrations and improvisations by two of Leigh's most experienced dancers, Dion Hastie and Jo Roads.

During the first half of the evening, Ian and Leigh explored the basic neurophysiology of

movement and balance. What is really going on when we get up from a chair? Leigh demonstrated elegantly how this apparently simple daily activity can be turned into a fluid efficient movement. Ian then showed how the different areas of the brain generate such a vast range of movements, all the while keeping track of where our bodies are located in space. Science and art converged again with demonstrations of the successive levels of personal space, and the ways in which dancers move between them.

In the second half, Marcello and Leigh went on to discuss the social aspects of dance. Why does it feel so good to dance? How does dance reflect personal expression on one hand, while serving a range of important community and interpersonal functions on the other? Using illustrations from famous movies such as 'Black Orpheus' and 'Zorba the Greek', and, of course, the incomparable Fred Astaire and Ginger Rogers, Marcello introduced the concept of 'mirror neurons'. These recently discovered components of

the brain seem to be essential for our recognition of socially relevant activity in other people. Stimulation of these pathways, together with the appropriate emotional cues, probably underpin the profound sense of well-being that comes with the enjoyment of dance, whether we actively join in or simply look on in wonder.

This was the second successful Art and Neuroscience event put together by Marcello, Ian and colleagues from the Arts as part of the 'Science Outside the Square' program. More events in this vein are planned for the next 12 months and beyond. Artists and neuroscientists can learn much from each other, but the gap between them is surprisingly small. Indeed, many new opportunities for collaboration and research are emerging. And rather than reading about the outcomes in a journal of neuroscience, you may get a chance to see them at a popular pub, cafe or gallery!



*From left: Dancers Jo Roads and Dion Hastie, and panel members Leigh Warren, Marcello Costa, Julianne Pierce and Ian Gibbons*

# From the Executive Dean

2006 has been a stellar year for the Faculty of Health Sciences with respect to the successful attraction of large collaborative grants. Particularly significant examples include grants to staff in the Flinders University Department of Medicine based at the Repatriation General Hospital. Specifically, Professor David Currow and colleagues have won \$3.6 million over three years from the Australian Government Department of Health and Ageing for a project entitled 'Development of the Australian Palliative Care Knowledge Network'. Professor Currow was also successful in obtaining \$2.8 million in a cross institutional collaboration concerning palliative care outcomes. Professor Maria Crotty and her team are part of a successful collaborative effort involving the University of Sydney and the University of Queensland in attracting a further \$2.8 million over five years from the NHMRC for a Health Services Research project involving transition care. These are just a few of the outstanding successes signaling the national and international leadership of these teams and further underscoring the reasons for the Faculty's support for their work within an Area of Strategic Research Investment.

I mentioned in the previous edition of *Research Pulse* that the Faculty of Health Sciences had joined a consortium consisting of Alzheimer's Australia SA as the lead organisation, Flinders Medical Centre, the SA Department of Health, Aged and Community Services SA and Northern Territory Inc. and Charles Darwin University in a bid to win Commonwealth funding support for a Dementia Training Study Centre. I am delighted to report that this bid was successful and I look forward to this initiative being a catalyst for curriculum development in this field. Unfortunately, we were not successful in our attempt to secure similar funding for a Dementia Research Centre.

I am also delighted to be able to report that Dr Damien Keating has been appointed as the first Bio Innovation SA Research Fellow for a period of four years in the Department of Human Physiology. The funding for this appointment involves a majority contribution from Bio Innovation SA, and co-investment from the Office of the Deputy Vice-Chancellor (Research) and the Faculty of Health Sciences. Damien comes to us following completion of his PhD at the

University of Adelaide and a two year period in Melbourne as a TM Ramsay Postdoctoral Fellow at Prince Henry's Institute of Medical Research. Damien's particular research interest is the role of Down Syndrome-related genes in brain function and neurotransmission and their possible relation to mechanisms underlying Alzheimer's Disease. Damien is featured in this edition of *Research Pulse*.

For some time now, the Faculty has been in the process of appointing a biostatistician, following the move to the University of South Australia of Professor Adrian Esterman. This position will provide essential biostatistics advice to staff across the Faculty and will also support the data processing needs of personnel at Flinders Medical Centre. I can now say that Dr Richard Woodman has been appointed to the role and will take up the position in January 2007. It is anticipated that this appointment will be the first step in a program to consolidate biostatistics services across the Faculty.

Roy Goldie

## Jan Paterson: *New Professor of Nursing (Aged Care)*

Congratulations to Jan Paterson, in her new role as the inaugural Professor in Nursing (Aged Care). This is a joint appointment between Flinders University and the Repatriation General Hospital (RGH), Daw Park.



Jan Paterson

Jan has been at Flinders University since December 1999 and at RGH since 1984. She is also the current Associate Dean (Research) for the School of Nursing and Midwifery at Flinders. Since her appointment at Flinders University she has developed a postgraduate education program on incontinence that has attracted international interest and recognition for its strategic response to workforce needs. As part of the Federal Government's National Continence Strategy, Jan has just completed a national collaborative research project to identify barriers to inclusion of continence into undergraduate nursing and midwifery programs and strategies to overcome them.

Jan's work in raising the awareness of health professionals and the community of incontinence as a major health issue has been recognised at many levels. She was past President of the Continence Foundation of Australia; received a Churchill Fellowship; was awarded scholarships and grants from Flinders University, Nurses' Memorial Foundation of SA, Royal College of Nursing and Joyce Wickham Memorial; and won a Public Service Medal, the President's Award from the Continence Foundation of Australia, and the Premier of SA's Award for Nursing Excellence in Education. Currently Jan is a member of the Continence Work Force Working Group for the Australian Government Department of Health and Ageing, a member of the International Consultation on Incontinence – Sub-Committee 21 (Products and Appliances), and Vice-chairperson of the International Continence Society sub-committee for nursing education.

A component of her joint clinical appointment with RGH is focussing on working with its Nursing Executive to implement their strategic plan to foster a nursing research culture within the hospital. Jan has been involved in nursing research projects at RGH on diverse issues including constipation, falls and nocturia, medication administration errors, sleep apnoea, transitional nursing home placement, lower limb amputation and interstitial cystitis. A current initiative is a four day workshop at RGH for beginner nurse researchers. Jan is the lead investigator on a current research project 'Partnerships in Aged Care Education' featured in this issue of *Research Pulse*.

# New Grants and Other Achievements

Research Pulse lists major new research funds received by members of the Faculty of Health Sciences as we hear about them. New for this issue are:

- David Currow, Peter Martin, Jennifer Tieman. Developing a knowledge network in palliative care (Australian Government Department of Health and Ageing)
- David Currow. The Palliative Care Clinical Studies Collaborative (Australian Government Department of Health and Ageing)
- Flinders Consulting Pty Ltd, representing Maria Crotty, Craig Whitehead, Paddy Phillips, Simon Eckermann, Judith Dwyer, Lynne Giles, Julie Halbert and colleagues at the University of Sydney and University of Queensland. National Evaluation of the Transition Care Program (NHMRC)
- James Dunbar, Steve Bunker, Prasuna Reddy. Evidence-based best practice model clinical pathways for people with Diabetes – Phase I (Department of Human Services, Victoria)
- James Dunbar, Adrian School, Cate Mercer. Region of Choice (Department of Human Services, Victoria)
- James Dunbar, Steve Bunker, Prasuna Reddy. Strategic Health Development and Innovations Advisory Service (Department of Human Services, Victoria)
- Jerry Ford. Strathmont Devolution Evaluation (Department of Families and Communities)
- Jamie Craig, Nico Voelcker, M Plunkett. Bio-MEMS eye sensor for continuous monitoring of intraocular pressure (ARC – Linkage Project (formerly SPIRT) Round 2)
- Anne Johnson. Public Health and Education Research Program Phase 4 funding agreement (Australian Government Department of Health and Ageing)
- Harry Owen. The MAC Car Crash Simulator (Medical Research) (Motor Accident Commission)
- Charlotte de Crespigny. Implementation and Dissemination of the Clinical Practice Guidelines for the Management of Alcohol Problems in Aboriginal and Torres Strait Islander Peoples – Phase 2 (Australian Government Department of Health and Ageing)

Kim O'Donnell from Flinders Aboriginal Health Research Unit has joined the NHMRC's Indigenous Health Research Panel. The panel reviews applications for grants to fund research in the area of Aboriginal and Torres Strait Islander health against the Criteria for Health and Medical Research of Indigenous Australians (available at [http://www.nhmrc.gov.au/publications/\\_files/indighth.pdf](http://www.nhmrc.gov.au/publications/_files/indighth.pdf)).

Anne Johnson from Department of Public Health has been appointed to the new National Health Committee of the NHMRC for the next three years. The National Health Committee replaces the Health Advisory Committee and provides independent evidence-based health advice, guidelines and standards to governments and the community.

For more information about NHMRC Committees visit <http://www.nhmrc.gov.au/about/committees/index.htm>

Two groups from Flinders University were finalists for the Premier's Science Excellence Award, in the category Excellence in Research for Public Good Outcomes. They were Professor Doug Coster's Ophthalmology group and Professor Graeme Young's Gastroenterology group.

## Colorectal cancer screening research: one of NHMRC's 10 of the Best

Flinders University researchers have been recognised for the excellence and value of their research on 'Community attitudes to colorectal cancer screening'. The project was included in the National Health and Medical Research Council's booklet '10 of the Best 2006'. The booklet celebrates 10 peer-selected success stories from leading health and medical research teams whose work has been funded by the NHMRC. It was launched in Sydney on 1 September at a ceremony attended by the Federal Minister for Health, Tony Abbott, and is available on the web ([http://www.nhmrc.gov.au/publications/\\_files/thebest06.pdf](http://www.nhmrc.gov.au/publications/_files/thebest06.pdf)).

The project investigators include Professor Graeme Young (Gastroenterology, Department of Medicine, Flinders University), Steve Cole (Bowel Health Service, Repatriation General Hospital) and Deborah Turnbull (University of Adelaide), with Alicia Smith as project officer. The study looked at community attitudes to colorectal cancer screening, to ensure participation is maximised and screening is accepted by the community.

Australia has one of the highest rates of colorectal cancer in the world. This disease is more common in older people, mainly affecting those over the age of 50. However, when diagnosed and treated at an early stage, there is an excellent chance of cure. Australia has 13,000 new cases of colorectal cancer reported per year and will soon embark on a national colorectal cancer screening program.

The study found that simplicity and ease of obtaining a stool sample at home were the key drivers for people to participate. Perceived benefit, risk and even family history were not as powerful determinants of behaviour as expected. The study also found that vigorous advocacy by GPs adds credibility to the program.

These findings will increase uptake and effectiveness of the colorectal cancer screening program, which is anticipated to reduce death from colorectal cancer in Australia by up to 40% (through detection of curable cancer) and reduce the number of actual cases (through detection and removal of adenomas) by just as much.



The winning team, from left: Deb Turnbull, Steve Cole, Alicia Smith and Graeme Young

# Flinders Centre for Clinical Change & Health Care Research

## Achievements to date

It is 21 months since Flinders Centre for Clinical Change & Health Care Research (FCCCHCR) received notification of status as an Area of Strategic Research Investment (ASRI) and much has been achieved in a short time!

Since its inception in December 2004, FCCCHCR members have attracted \$17.5million in new research funding. The NHMRC and the Australian Government Department of Health and Ageing have featured strongly in the list of funding bodies. Other sources include the Department of Veterans' Affairs, the Australian Primary Health Care Research Institute, the Australian Government Department of Family and Community Studies and, more recently, the National Institutes of Health. Logically, funding success has been strong in the FCCCHCR flagship areas of evidence-based clinical practice, ageing, end-of-life care and chronic disease.

There has been a steady stream of grant applications throughout 2006 in addition to the flurry of activity in March and April as members prepared NHMRC applications. FCCCHCR support for NHMRC applications was rather lean this year, while the Research Development Officer, Stacey Masters, took on a brief secondment with the Flinders University Office of Research. This proved to be an intense period, but one which provided excellent insights and links to research staff across faculties, departments and disciplines.

### Key Performance Indicators

Funding for a health economist is a central plank for FCCCHCR and members were asked to comment on the success of this strategy as part of the recent External Review of Areas of Strategic Research Investment funded in Rounds 1, 2 and 3. Notably, we are beginning to see more funding programs in which economic evaluation is an explicit requirement, and the current round of Australian Primary Health Care Research Institute funding (Stream 6) is one example. Of the 11 NHMRC applications lodged by FCCCHCR members in May this year, economic evaluation was an integral part of the research design in five proposals. Economic evaluation was a requirement for a UK funding application lodged earlier this year and is a core component of the Palliative Care Clinical Studies Collaborative that will oversight and conduct clinical trials of therapeutic agents in palliative care for registration with the Therapeutic Goods Administration and Pharmaceutical Benefits Advisory Committee (PBAC).

FCCCHCR health economist Simon Eckermann has considerable experience in reviewing economic evaluations for the PBAC. He has PBAC funding to teach a short course in health economics methods for health technology assessment in Sydney later this year, together with colleagues Andy Willan from Toronto and Liz Fenwick from Glasgow. This is a closed workshop with an audience comprising members of the PBAC economic sub-committee and assessors. The following week, Andy, Simon and Liz will be in McLaren Vale, teaching an open FCCCHCR course in health economics which is attracting solid interest from colleagues both nationally and internationally.

As part of his PhD Simon developed new methods to evaluate health service/provider performance that minimise incentives for cost shifting and cream skimming. His work has also focused on modeling uncertainty in decision making and assessing the value of information. Identifying where the uncertainty exists (with reference to the existing body of knowledge) and assessing the value of additional information, enhances the policy relevance of research. Articulating the current level

of uncertainty, and the value of the information required to reduce that uncertainty, assists governments and research funding bodies identify where they can achieve the 'biggest bang for the buck'.

### Credibility and consolidation

The importance of 'real' cross-institutional research networks as a strategy to enhance South Australia's competitive position for NHMRC and other national health services research funding, was articulated at a Health Services Research Forum in December 2005, sponsored by the Department of Health. The forum was an outcome of discussions generated by the FCCCHCR leadership and supported by Southern Adelaide Health Service and achieved strong representation across the university, government and non-government sectors.

The development of a collaborative bid for NCRIS funding in September 2005 and a subsequent tender proposal for Dementia Research Centre funds in April 2006, although unsuccessful, have provided opportunities to link with research clusters at the University of Adelaide, specifically the Healthy Ageing Research Cluster and Healthy Development Adelaide, as well as key non-government organisations.

FCCCHCR leaders have continued to work with the SA Department of Health and research leaders at the University of Adelaide and University of South Australia to progress this agenda. Recent discussions have focused on cross-institutional research related to workforce issues in the areas of early childhood development and chronic disease management.

A Department of Health decision to fund senior lecturer positions in health economics at the University of Adelaide and University of South Australia, and to co-locate these positions with the FCCCHCR, reflects a growing awareness of the importance of economic evaluation in health services research and policy and the logic of developing a critical mass of expertise within a framework of cross-institutional cooperation, rather than competition.

### Sustainability

At a University level, the ASRI strategy continues to gain momentum. Ongoing investment in infrastructure to support the ASRIs (e.g. web design, marketing tools, professional development sessions in IP, contract law), and the critical mass of staff variously described as Research or Business Development Officers – would seem to be key factors in sustaining this momentum.

Similarly, momentum within the FCCCHCR continues to be buoyed by an ongoing investment in infrastructure by the leadership, the critical mass of dedicated researchers and stakeholders who comprise our governing body and the myriad ways in which individual members contribute to the life of the group.



Stacey Masters

# Thermoregulation Research

A research group led by Professor Bill Blessing from the Neurology Laboratory, Department of Physiology, is conducting research on how the brain controls body temperature. Of particular interest are heat exchange mechanisms via skin circulation (eg tail in rat, ear pinnae in rabbit, fingers and toes in humans), and heat production in brown adipose tissue (BAT).

Recent research has focused on the street drug 'ecstasy' (MDMA, a derivative of amphetamine), that sometimes causes life-threatening hyperthermia. The group discovered that MDMA raises body temperature by increasing sympathetic outflow from the central nervous system to cutaneous blood vessels and to BAT, resulting in decreased heat loss and increased heat production. Drugs already used to treat major psychiatric illness (eg clozapine) are very effective at reversing these changes. However, a major side effect of clozapine is obesity, perhaps related to effects on BAT.

Obesity occurs when energy expenditure is less than energy intake. Energy expenditure occurs during physical activity, through basal metabolic processes, and through 'facultative thermogenesis' in which body mass is turned into heat energy. BAT is the main site of facultative thermogenesis in many species including human infants. BAT is also present in adult humans, although the metabolic significance of BAT in adult humans is a matter of intense interest and debate.

The simplest way to induce BAT thermogenesis is exposure to cold. Recently, the Biomedical Engineering group ([www.fbe.org.au](http://www.fbe.org.au)) developed a sophisticated but low cost animal temperature control cage. An existing chest freezer from the laboratory was adapted by

making a port in its lid for cabling and adding a heater inside the freezer. This specially designed heater sits in the bottom of the freezer, with the animal cage on top of it. The heater is similar in operation to a household blow heater, but with a very gentle air flow. An external control box was designed to heat the air to a desired temperature by switching power to the heater.

This device enabled measurement of heat production by BAT in conscious freely-moving rats, and led to the discovery that both serotonergic and dopaminergic mechanisms contribute to central nervous system control of sympathetic outflow to BAT. It is anticipated that these studies will provide insight into the brain mechanisms contributing to obesity.



*Clockwise from top left: Professor Bill Blessing, Robyn Flook, Keerthi Kulasekara, Youichirou Ootsuka, Melissa Quinlan and Sarah Fitzpatrick*

## Damien Keating: *New Bio Innovation SA Research Fellow*

Flinders University Faculty of Health Sciences welcomes Dr Damien Keating, who was appointed in July 2006 as the Bio Innovation SA Research Fellow in Molecular Neuroscience. Damien is setting up a new Molecular and Cellular Neuroscience Group in the Department of Human Physiology.

This position has been made available through Bio Innovation SA, the South Australian Government's bioscience industry development body, which provided generous funding to each of the three SA universities to attract an interstate or international scientist.

The appointment is a return to Adelaide for Damien, who completed his PhD at Adelaide University. He subsequently accepted a post-doctoral position at the Centre for Molecular Neurobiology in Hamburg, Germany under the renowned neurobiologist Professor Thomas Jentsch. The research carried out by this highly distinguished group provided Damien with wide-ranging training in a variety of cutting-edge techniques. Damien's last research position was as the TM Ramsay Fellow at Prince Henry's Institute of Medical Research in Melbourne. In addition, Damien is a Member of the Australian

Neuroscience Society and the Australian Physiological Society and has given invited presentations of his research to these and other organisations.

Damien now brings his expertise to Flinders University, including patch clamp electrophysiology, measurement of neurotransmitter release from single vesicles, live cell fluorescence imaging, site-directed mutagenesis, neuronal transfection and phenotypic analysis of transgenic mouse models. Damien will build his own group with a research focus on the cellular and molecular biology of nerve cells in disease.

Damien's most recent research has investigated the neurological role of genes related to Down Syndrome and Alzheimer's Disease. He used knock-out and transgenic mice that either do not express or over express these genes to study neurological processes. This work led to identification of changes in neurotransmission and vesicle recycling, brain size and morphology, and neurodegeneration. Previously Damien researched topics including the cellular mechanisms of dysfunctional insulin secretion in diabetes, genes regulating

neuronal development, gene mutations in human neurodegenerative diseases, the fetal response to oxygen deprivation, as well as the development of new drugs that inhibit neurotransmission. Damien aims to continue these research interests while also collaborating with other Flinders biomedical researchers.



*Damien Keating*

# Antenatal ultrasound training for remote health practitioners

Bernadette Rickards is a Master of Public Health graduate from the University of Queensland who joined the staff at the Centre for Remote Health (CRH) in April 2005. Bernadette is currently working as a Project Officer under the supervision of Sue Lenthall who is the Project Manager for the Antenatal Medical Imaging Training (AMIT) Project, a project developed collaboratively between Flinders Medical Centre (FMC) Department of Medical Imaging and CRH in partnership with local government and Aboriginal community-controlled health services.

The AMIT Project comprises an innovative training program in basic obstetric ultrasound for remote health practitioners conducted at FMC. The aim of the project is to increase the capacity of remote health professionals to provide basic obstetric ultrasound examinations for Aboriginal women living in remote communities. Access to specialist services such as antenatal ultrasound incurs significant burden for these women as they must travel vast distances from their home to the nearest regional centre for the required procedure. This burden manifests as financial disadvantage, but also dislocates women from their family



*Bernadette Rickards and midwife, Glenda Gleeson, get the portable ultrasound equipment ready for a bush clinic visit*



*Louise Tucker (left) from Ernabella performs an ultrasound scan during training at FMC with senior sonographer, Marianne Liddy*

commitments and community security for extended periods. The augmented capacity of remote health clinic staff to provide accurate gestational assessment via dating scans for these women improves ongoing management for their pregnancies and reduces unnecessary time away from their communities.

To date, 23 participants working within Central Australia have been trained in the use of portable obstetric ultrasound scanners, including six Aboriginal health workers. After competency assessment the trainees progress to perform basic antenatal dating scans in their remote clinics. Ongoing competency is monitored by a senior sonographer from FMC who assesses each image generated by the trainees. Evaluation of the project is underway to ascertain the acceptability of the addition of this technology to the existing antenatal care provided to Aboriginal women living in the communities, as well as to determine any increase in the number of women presenting for antenatal care in the first trimester of their pregnancies.

## *Depression and heart disease and diabetes co-morbidity*

The Greater Green Triangle University Department of Rural Health has won over a million dollars for its research on co-morbid chronic disease. The public health impact of diabetes and depression, both separately and together, is enormous. Despite research-based gains in the management of diabetes, it remains a leading cause of disability for men and women in most areas in the world. *beyondblue* is supporting the Greater Green Triangle University Department of Rural Health, the University of Melbourne and three Divisions of General Practice to improve the care provided to people with depression who also have heart disease or diabetes.

The first *beyondblue* project is undertaking pilot work in the Greater Green Triangle and a further substantial grant from *beyondblue* will fund the roll-out to Adelaide supported by Professor Richard Reed, and to Northern Rivers, Blue Mountains and Nepean in NSW. Further grants have been obtained from the Department of Human Services Victoria, on the prevalence of depression in people with Type 2 diabetes, and an evidence-based best practice model of clinical pathways for people with diabetes and depression. These projects follow on from a National Heart Foundation Clinical Pathway Project for patients with heart disease and depression.

The aim is to set up a system of care for patients with co-existing illnesses and train GPs and nurses to identify and manage depression in these patients. The training includes management of risk factors and case management. The outcomes of the project will be measured over the next two years. For further information contact [director@greaterhealth.org](mailto:director@greaterhealth.org)

# Health and Society

'Health and Society: Equity, Well-being and the Social and Economic Determinants of Health' is the full title of an Area of Strategic Research Investment (ASRI) at Flinders University. It is concerned with the ways in which what happens in our every day lives, at home, work and play, affects our health status. The Health and Society ASRI became operational in May 2006 and is hosted by the Faculty of Health Sciences. Its membership includes clusters of researchers from Flinders' diverse groups and disciplines including Public Health, Nursing and Midwifery, General Practice, Health Services Management, Injury Studies, Nutrition and Dietetics, South Australian Community Health Research Unit, National Centre for Education and Training on Addiction, Education, Law, Geography, Population and Environmental Management, Political and International Studies, National Institute of Labour Studies, Informatics and Engineering, and Legal Studies.

What underpins the research strengths of Health and Society? The World Health Organisation (WHO) established a Commission on the Social Determinants of Health and Professor Fran Baum, a co-leader of the Health and Society ASRI, is one of the WHO Commissioners. At the launch of the Commission, the Chair, Professor Sir Michael Marmot said:

*People's health suffers because of the social conditions in which they live and work. The end goal of the Commission—and its follow-up—is to change this reality... At the core of the Commission's work is the belief that a society that has organised its social conditions so that its population has better health is a better society. Health is a measure of the degree to which the society delivers a good life to its citizens. This Commission is aiming to help countries to progress towards that ideal.*

Throughout life there is evidence of the effect of the social determinants of health and their profound influence on both the social gradient in health and health equity in all countries. Effectively, the better off you are in a community, the better your health; the lower you are in the social hierarchy, the worse your health.

Health and Society ASRI's research activities are in line with national priorities and include consideration of the underlying factors that determine health and well-being outcomes, including income and occupation, education, reward for effort, degree of control and

employment status, with a particular focus on the labour market, housing, and the structure of suburban environments. Further emphasis is given to the structural determinants of unhealthy behaviour, especially alcohol, drug and other addictions, injury, social and civic isolation, low physical activity levels and poor nutrition, contrasted with the social, cultural and economic forces that contribute to health and related service use.

The external goals that have been established include building research partnerships with government and other industry bodies through a two-way flow of ideas and information, and collaborative project development and implementation. Internally Health and Society aims to consolidate related research across the University and encourage new interdisciplinary groups and partners in order to attract external research funding. Overall we aim to promote equitable increase in health and better knowledge of the social determinants. Given the members' existing strength in this area of research, Health and Society ASRI will strive to build on and consolidate our national and local reputation for policy and practice relevant research on social and economic determinants which will enhance Flinders University's reputation for social research, good outcomes and social justice.

The ASRI Executive's priority is to establish and promote a focus for research excellence under the auspices of a planned Australian Institute of Health and Equity. Further information on the Health and Society ASRI can be found at <http://healthandsociety.flinders.edu.au/>, or you can contact Dr Margaret Robinson at [margaret.robinson@flinders.edu.au](mailto:margaret.robinson@flinders.edu.au) or telephone 8204 5977



Margaret Robinson (left) and Fran Baum

## Primary Health Care Conference was well paced and great value

It takes knowledge and experience, planning, high standards, good relationships, sound infrastructure, goodwill and imagination to achieve optimal impact from an event like the 2006 General Practice and Primary Health Care Research Conference held recently in Perth. The Primary Health Care Research and Information Service (PHC RIS), based in the Department of General Practice at Flinders, has once again convened a successful conference.

With the support of the Australian Primary Health Care Research Institute, the Australian Association of Academic General Practice, and the Australian Government Department of Health and Ageing, PHC RIS, through this

conference, has increased the sense of unity and common purpose to achieve better primary health care through a strong research sector linked to policy and practice.

Over 300 delegates attended the conference. They were inspired and challenged by the international guest speakers, Professors Larry Green (Senior Scholar in Residence at the Robert Graham Centre in Washington DC), Martin Roland (Director, National Primary Care Research and Development Centre and Professor of General Practice at Manchester University) and Andre Knottnerus (Maastricht University, the Netherlands).

Further information about the conference, paper and poster abstracts, plenary and paper presentations, and photos can be accessed through the PHC RIS website [www.phcris.org.au](http://www.phcris.org.au)



The three international speakers (from left: Martin Roland, Andre Knottnerus, Larry Green) listening to a delegate during discussion time

# Action Research in Aged Care Education



At the launch of the PACE project in July 2006, from left: Jan Paterson, Roy Goldie, Lily Xiao and Anne Edwards

Flinders University School of Nursing & Midwifery (SoNM) has commenced a new project 'Partnership in Aged Care Education' (PACE) in collaboration with partners Austral Nursing Homes Pty Ltd, ECH Inc, Helping Hand Aged Care Inc, Resthaven Inc and Southern Cross Care (SA) Inc. The project addresses recruitment and retention of registered nurses in residential aged care, a longstanding concern of community and government sectors.

The research team includes Jan Paterson (lead investigator), Lily Xiao (research associate), Patricia Mitchell, Anita De Bellis, Julie Henderson and Moira Kelton, all from SoNM. The advisory committee comprises representatives of the aged care industry partners.

The project employs collaborative action research methodology. The first phase will identify problems and strengths in existing educational programs in aged care from the perspectives of both an educational institution and the aged care industry. Findings will inform educational innovation action-taking relevant to a contemporary aged care environment.

In the SoNM, action-taking will support the implementation of the new undergraduate nursing curriculum (2007-2011), which integrates aged care content throughout the program. It will also strengthen and develop elective aged care topics available in the undergraduate curriculum. Building positive attitudes, adequate knowledge bases and skills in aged care for nursing students will be the key concerns of this process. Additionally the PACE project will help to promote aged care as a viable career option to nursing students.

In the residential aged care organizations, action-taking through the PACE project aims to develop desirable learning environments and positive learning experiences for nursing students. The PACE project will promote collaboration and resource sharing between SoNM and aged care industry to support professional development for all nursing staff in residential aged care facilities. This will be achieved through the paths of the Graduate Nursing Program, continuing nursing education programs and postgraduate programs including the Nurse Practitioner program.

In order to ensure sustainability of these educational interventions, actions recommended and taken in PACE project will be scrutinised, modified and evaluated throughout this project. Accountability for action research evaluation will be grounded on formative and summative evaluative methods; qualitative and quantitative data; and the inclusion of all stakeholders' participation in the program evaluation.

## Adventures in Space Radiation

Flinders University student Benjamin Blyth has recently returned from a unique study opportunity with NASA in the United States. Benjamin, a PhD candidate in the Flinders University School of Medicine was selected as one of 15 postgraduate students and scientists from around the world to participate in the 2006 NASA Space Radiation Summer School at Brookhaven National Laboratory in Upton, New York. The three-week course involved training to work and conduct experiments at the NASA Space Radiation Laboratory (NSRL). With NASA planning manned lunar and Mars missions in the coming decades, NSRL is an

important facility for studying and understanding the health risks associated with astronauts' exposure to ionizing radiation in space. Benjamin's involvement relates to research being conducted right here at Flinders Medical Centre by Associate Professor Pam Sykes and her group. The research is funded by the United States Department of Energy as part of their Low Dose Radiation Research Program, and is aimed at determining the genetic risks of low dose radiation exposure. During his two-month trip, Benjamin also took the opportunity to visit several laboratories and attend the Low Dose Radiation Research Workshop in

Washington DC. Now back home, Benjamin hopes to take the lessons learnt with NASA to further his PhD research.



Benjamin Blyth in the laboratory

**research pulse** is an initiative of the Faculty of Health Sciences at Flinders University. Comments and suggestions for future articles are welcome.

Editor – Inge Kowanko

Contact – karen.siegmann@flinders.edu.au

Associate Editor – Karen Siegmann

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