

Launch of Southgate Institute for Health, Society and Equity

The Seminar and Launch of the Southgate Institute for Health, Society and Equity was held on 22nd May 2009 at Flinders University. The event was attended by over 200 local, interstate and overseas academics, students, policy makers, members of the Southgate family and the community.

The Southgate Institute for Health, Society and Equity (the Southgate Institute) is one of the Areas of Strategic Research Investment (ASRI) at Flinders University. It is named after the late Associate Professor Deane O Southgate AM FRACGP, FACOM. Associate Professor Southgate was Head of the Department of Primary Care and Community Medicine in the School of Medicine, Flinders University at the time of his death in 1991.



Launch by Hon. Monique Bégin & Mr David Swan

The Southgate Institute aims to build on the international, national and local reputation of Flinders University for conducting policy and practice relevant research on the social and economic determinants of health and health equity in particular. The research focus will be on what can be done about the underlying factors that determine the distribution of health and well-being outcomes. The Southgate Institute will produce research knowledge on why health inequities exist, what can be done about them and how population health overall can be improved. This knowledge can be used to inform local,



Southgate Institute members and launch participants

regional, state and national initiatives designed to reduce health inequities and their underlying causes. The work of the Southgate Institute has much relevance to the ongoing work of the WHO Commission on Social Determinants of Health.

Professor Michael Barber, Vice-Chancellor of Flinders University and Professor Michael Kidd, Executive Dean of the Faculty of Health Sciences chaired the Seminar and Launch. Professor Julian Disney, Director, Social Justice Project, University of New South Wales provided the 1st Keynote on 'Housing, Health & Social Justice'. A panel discussion on 'How to get sectors working together for health & equity?' was facilitated by Professor Elizabeth Handsley from the School of Law. The panelists were Emeritus Professor Anne Edwards, Co-Chair, Premier's Council for Women,



The panel discussion

Mr Brendan Moran, Director, Housing SA North, Ms Liz Furler, Executive Director, Policy, Planning and Performance, Department of Education and Children's Services, Professor Julian Disney and Ms Dana Shen, Project Leader, Action Team and Early Childhood and Child Protection Portfolios, Statewide Services Strategy. The 2nd keynote speaker the Honourable Monique Bégin, Sociologist, twice appointed Minister of National Health and Welfare, Canada and Commissioner on the WHO Commission on Social Determinants of Health spoke on 'Setting the conditions for sustained action on social determinants of health at home in Australia and abroad'. Professor Fran Baum, Director, Southgate Institute outlined the vision for the Southgate Institute. Other speakers included the Honourable Rosemary Crowley and Mr David Swan, Executive Director, Operations, SA Department of Health.

The details of the event, powerpoint slides, transcripts of keynote speakers and the full video and audio files of the presentations can be downloaded from the Southgate Institute website: <http://www.flinders.edu.au/southgate/events.htm>

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Inaugural ARC Future Fellow

The Faculty of Health Sciences is proud to announce that ground-breaking research on how human cells communicate has earned Flinders University neuroscientist Dr Damien Keating a prestigious Future Fellowship from the Australian Research Council (ARC).

The inaugural Future Fellowships, awarded to outstanding national and international mid-career researchers, were announced recently by the Minister for Innovation, Industry, Science and Research, Senator Kim Carr.

The scheme aims to address the gap in opportunities for mid-career researchers in Australia, which has led many of our nation's talented researchers to search for work overseas. Fellows receive a salary of up to \$135,000 for four years, with their institutions receiving up to \$50,000 a year for associated infrastructure and other costs.

The award reinforces our university's reputation as a leader in fundamental science nationally and internationally and recognises both the outstanding calibre of the recipient and the expertise of the broader research community at Flinders.



Dr Damien Keating

Dr Keating and his team are studying cell communication, focusing on neurons (nerve cells). They are particularly interested in the underlying molecular mechanisms, and the regulating role of certain proteins in the release of hormones and neurotransmitters.

As well as increasing fundamental knowledge of cell communication, the research has the potential to increase understanding of neurodegenerative

diseases including Down Syndrome, Huntington's Disease and Alzheimer's Disease.

Having discovered novel roles for some of the proteins involved in nerve communication, Dr Keating and his team are trying to discover if they are part of the cascade of events which leads up to the end-point of these diseases.

Dr Keating has authored 11 scientific papers in the past three years and sees his Fellowship as recognition of the strong research generated by a community of talented neuroscientists at Flinders.

The Faculty Research Committee provides mentoring and support for researchers at Flinders who are interested in following Dr Keating's lead and applying in the next round of ARC Future Fellowships.

Professor Michael Kidd
Executive Dean
Faculty of Health Sciences

(Content sourced from Flinders News)

Dr Vijaya Gothwal: Sharing a vision with Flinders University

Dr Vijaya Gothwal is visiting Flinders University from the L V Prasad Eye Institute, Hyderabad, India where she works as an optometrist and as the Head of the Meera and L B Deshpande Centre for Sight Enhancement, which she was instrumental in starting. The Centre helps people with visual impairment maximize the use of their residual vision either through the use of optical or non-optical low vision devices and other compensatory strategies. The Centre includes the combined and coordinated use of medical, social, educational, and vocational measures for training or re-training such individuals to the highest possible level of



Thomas Wright & Associate Professor Konrad Pesudovs with Dr Vijaya Gothwal

functional ability. To date the Centre has helped about 30,000 people with visual impairment improve their quality of life.

Vijaya arrived in Australia in October 2008 to pursue her Post-Doctoral Fellowship for 12 months working with Associate Professor Konrad Pesudovs in the NHMRC Centre for Clinical Eye Research and the Department of Ophthalmology, Flinders Medical Centre. Their work investigates the validity of patient-reported outcomes (questionnaires) currently used in ophthalmology, leading towards the development of the first item bank for the measurement of quality of life in ophthalmology. Together with Research Assistant Mr Thomas Wright, in the last 7 months they have published 10 papers in peer reviewed journals with another 10 submitted.

In June 2009 Vijaya received the American Academy of Ophthalmology's Achievement Award. This award recognises individuals for their contributions to the Academy based solely on a cumulative point system earned through participation in the Annual Meeting, or other areas of service to the Academy such as authorship and co-authorship of scientific papers. Associate Professor Konrad Pesudovs also received an award from the American Academy of Optometry, the Garland W Clay Award, which is presented to the author or authors of the manuscript published in *Optometry and Vision Science (OVS)* that has been most widely cited in the preceding five years.

Vijaya returns to India in September 2009 to further her research by using the item bank in Indian populations and drawing comparisons with populations in developed countries. She will continue her work in clinical low vision rehabilitation with both adults and children with visual impairment and fulfil her research interests which lie in paediatric low vision and qualitative studies in low vision.

Anne Amos, anne.amos@flinders.edu.au

Spirituality in Health Care Practice

'When people walk into a therapist's office, they don't leave their spirituality in the waiting room – they bring their spiritual beliefs, practices, values and struggles along with them.' This statement, from Professor Ken Pargament's text *Spiritually Integrated Psychotherapy* indicates the importance he places on spirituality and its potential link to health. Professor Pargament, from the Psychology Department at Bowling Green State University in Ohio, was one of the keynote speakers at the Third Australian Spirituality and Health Conference, held in Adelaide in July 2009. This conference was opened by Professor Paul Worley, Dean of the School of Medicine, Flinders University and convened by Dr Ann Harrington from the School of Nursing and Midwifery, Flinders University.

When Dr Harrington began researching the area in 1993, there was little acknowledgement of the importance of spirituality, nor any connection between spirituality and health. At that time, few health care providers took a spiritual history as part of their patient assessment and few research studies had been undertaken.

However Dr Harrington has noticed a shift in thinking in more recent years, with entire journal issues being devoted to this research. She reported that in the last twelve months she had examined two theses that

researched aspects of spirituality, demonstrating its importance in research.

The Third Australian Spirituality and Health Conference was further evidence of the relevance and importance of this research. It brought together researchers from the United States, Thailand, Australasia and South Africa to consider the theme of Integrating Spirituality in the Practice of Health Care.



Dr Ann Harrington, Mr Marek Jantos, Dr Russell D'Souza, Rev Professor Elizabeth MacKinlay, Professor Ken Pargament, Professor Paul Worley, Dr Craig Hasted

Australian researchers and clinicians from academic and health care institutions made a significant contribution. They addressed topics on;

compassion, gratitude, forgiveness, trauma and faith, traditional and alternative spirituality, coping methods, healing and religious symbols, making sense of human suffering, spirituality and health among Indigenous populations.

Three speakers from the conference, including Dr Harrington, were interviewed on ABC radio and spoke at length on spirituality, its definition, the clarification of religion and spirituality and its integration into health care practices. A further interview was also conducted with Professor Pargament. Both are available for download at: www.abc.net.au/sundaynights/stories/s2636788.htm and www.abc.net.au/sundaynights/stories/s2623582.htm.

The popularity of the conference has seen it become a biennial event and planning for the fourth conference in 2011 is already well under way. The theme for this conference will be Forgiveness, Spirituality & Health and Professor Everett Worthington from Virginia Commonwealth University will feature as the keynote speaker. Further information can be obtained on the website www.spiritualityhealth.org.au.

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Lyn Pilowsky, DSc



Professor Michael Barber, Professor Issy Pilowsky, Sir Eric Neal, Patricia Berry, Dr Alan Wilson & Professor Michael Kidd

The Doctorate of Science (DSc) is Flinders University's highest level of recognition for scientific achievement. This degree, reserved for distinguished scholars, was awarded posthumously to Professor Lyn Pilowsky at a ceremony in April this year.

Professor Pilowsky graduated from the Flinders University medical program in 1984 and went on to complete her psychiatry training in London. She became a respected researcher and clinician and was a pioneer in the use of molecular imaging (single photon emission tomography) in psychiatry.

In her first study, Professor Pilowsky found that no additional benefit was gained from prescribing high dose typical antipsychotic drug treatment for individuals with treatment-resistant schizophrenia. As a result, this accepted practice was rendered obsolete and the quality of life for patients with schizophrenia and related illnesses was greatly improved.

Professor Pilowsky was also the first to discover the atypical action (limbic selectivity) of clozapine and other antipsychotic drugs. Her later research concentrated on novel targets for treatment in schizophrenia, including N-methyl-D-aspartic acid (NMDA) and sigma-1 receptors, and she discovered a previously unreported NMDA receptor deficit in the brains of patients with schizophrenia.

Professor Pilowsky applied for candidature and was accepted to the Degree of Doctor of Science at Flinders University, however she was diagnosed with a brain tumour and was unable to complete and submit a thesis before her death.

Fortunately, this story does not end here.

Dr Alan Wilson, Chair of the Faculty of Health Sciences Research Higher Degrees Committee saw great merit in Professor Pilowsky's application and pursued the possibility of granting a Doctorate posthumously. Dr Wilson and a team comprised of Patricia Berry (Faculty of Health Sciences), Professor Laurie Geffen (former Dean of the School of Medicine and long-time friend of the Pilowsky family) and Dr James Stone (Lyn's former PhD student and colleague at Kings College, London) spent many months putting together a substantial thesis based on information that Professor Pilowsky had provided prior to her death.

In praising Professor Pilowsky's work in the thesis, one of the examiners also paid tribute to the efforts of this team, acknowledging that their commitment reflected the high regard in which Professor Pilowsky was held.

Professor Pilowsky's contribution to psychopharmacology is internationally renowned and her achievements are worthy of Flinders University's highest level of recognition. The award was accepted by her father, Professor Issy Pilowsky on 23rd April 2009.

Denise Caretti and Dr Alan Wilson
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An update from the Centre for Intergenerational Health

It has been a year since *Research Pulse* reported the launch of the Centre for Intergenerational Health (CIH), a collaborative venture between Flinders University, the University of Adelaide, University of South Australia, SA Health and the Department of Further Education, Employment, Science and Technology (DFEEST). Here is an update of the Centre's progress since this time.

Dr Simon Wilksch has been awarded a Postdoctoral Research Fellowship from the CIH. Simon commenced the 3-year position in August, based in the School of Psychology at Flinders University and his project is titled *Prevention across the spectrum: Can we simultaneously reduce the risk of eating disorders and obesity?*

This research will build on earlier eating disorder prevention work by Dr Wilksch and Professor Tracey Wade where Media Smart, an 8-lesson school-

based program, was developed and evaluated in a controlled trial with 540 South Australian Grade 8 students. The 2.5 year follow-up evaluation was the longest of any eating disorder prevention study in the world to date and importantly it revealed benefits from the program were still present.

Both eating disorders and obesity are significant problems, with a range of serious physical, psychological, social and economic consequences. Dr Wilksch states there is 'considerable overlap between the two with obesity a risk factor for disordered eating, while those who experiment with severe weight loss techniques are much more likely to gain weight over time.'

However while positive work has been completed in the respective fields of obesity prevention and eating disorder prevention the two fields have rarely been worked on together to the mutual benefit of both problems. Given this, Dr Wilksch's CIH

research will be highly collaborative with input from various university and government departments.

Dr Wilksch's fellowship will directly address two of the key themes on the CIH's research agenda, namely healthy weight and psychological health. The other key themes include healthy reproduction, early childhood and healthy ageing. The CIH seeks to facilitate research addressing complex 'real world' problems by building inter-relationships across its key themes and also has a particular focus in achieving translational outcomes of policy and practice relevance.

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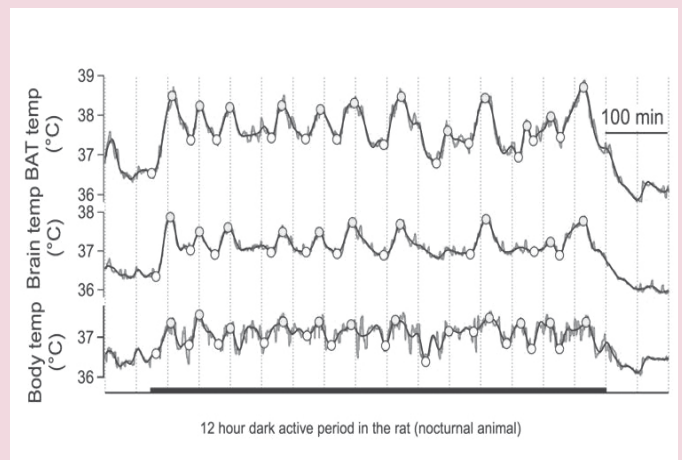
Centre for Intergenerational Health
improving health and wellbeing through the generations

Ultradian Rhythm Research

In the recently announced Faculty of Health Sciences grants Professor Bill Blessing, Dr Youichirou Ootsuka and Dr Rodrigo Menezes were awarded funds for their ultradian rhythm research. Professor Blessing has provided *Research Pulse* with an update of their findings to date and the future implications of this important research.

Mammals, including humans, keep their body temperature at about 37-38°C, higher than the temperature of the surrounding environment. This is possible because mammals can produce heat by metabolism of brown adipose tissue (BAT), a process regulated by the brain via sympathetic nerves. Professor Bill Blessing and his colleagues Dr Youichirou Ootsuka and Dr Rodrigo Menezes have measured the temperature of BAT in rats every minute for 24 hour periods. They were surprised to discover that this temperature increases suddenly for about 30 minutes approximately every 100 minutes during the 12 hour dark period, when nocturnal animals are active. These increases in heat production also contribute to increases in body and brain temperature (see Figure 1) that occur when the animal is moving about. At the same time, arterial blood pressure and heart rate increase substantially.

These episodic increases in behaviour and autonomic functions are referred to as ultradian rhythms. Professor Blessing and his team examined the relationship between this ultradian rhythm and the vigilance and active engagement of the rats with their environment. This study suggests that BAT heat production, triggered by brain central command, heats the brain and the body during episodes of increased vigilance and behavioural activity, which occur as part of the 1-2 hour basic rest-activity cycle.



Ultradian rhythm: BAT (top), brain (middle) and body (bottom) temperatures.

Professor Blessing and his team suspect that increases in brain temperature function to increase cognitive capacity when actively interacting with the environment. The troughs in heat production might serve to preserve the animal's fuel supplies when activity is low, a kind of micro-hibernation. Professor Blessing now aims to test these hypotheses, and to discover the brain neural command centres controlling the ultradian rhythm.

An ultradian rhythm in human BAT thermogenesis would be of profound physiological significance. Ultradian rhythmicity in brain temperature could explain fluctuations in the symptoms of human neurological and psychiatric disorders.

Professor Bill Blessing
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General Practice and Primary Health Care Research Conference

The Primary Health Care Research and Information Service (PHC RIS) which is part of the Prevention, Promotion and Primary Health Care Cluster of the School of Medicine, Flinders University, recently convened the 2009 General Practice and Primary Health Care Research Conference in Melbourne. This year's conference theme was Driving Change and more specifically how primary health care research can drive change in this current reform environment. Over 460 researchers, policy advisors, practitioners and consumers attended the three day event from 15-17 July at the Crown Promenade Hotel.

The Conference was officially opened by the Parliamentary Secretary for Health, Mark Butler who was also on hand to launch Snapshot of Australian Primary Health Care Research 2009. This national publication highlights recent Australian research projects that demonstrate the potential for primary health care research to improve the health of Australians.



PHC RIS Manager and Conference convenor Associate Professor Ellen McIntyre with Dr Janet Kelly, Health Management, Flinders University

The Conference featured two international keynote speakers: Dr Tikki Pang (Director, Research Policy & Cooperation, World Health Organization) and Professor Frank Sullivan (Director Scottish School of Primary Care, NHS Tayside Professor of Research and Development in General Practice and Primary Care, University of Dundee).

Dr Tikki Pang engaged the audience with his stories of health inequalities in the Asia Pacific region and spoke of Australia's role as a potential leader in this area. He urged for more research, especially in areas related to universal coverage, service delivery, evidence-informed policies and leadership. He commended Professor Fran Baum of Flinders University on her work with the WHO Commission on Social Determinants in Health, and noted that we needed to make better use of evidence for health policy development.

Professor Frank Sullivan shared a 25 year perspective on how Scotland came to learn the value of research in the primary health care setting, with examples of where primary care research is driving change in long-term health conditions such as Bell's Palsy. Delegates were able to draw ideas on how this could be a lesson for Australia.

The last day featured an exciting panel discussion that included commissioners from all three Australian health reform committees. Professor Rob Moodie (National Preventative Health Taskforce), Dr



A lunch time 'topic table' at the Conference

Tony Hobbs (National Primary Healthcare Strategy External Reference Group), Dr Mukesh Haikerwal (National Health and Hospitals Reform Commission) and Megan Morris (Department of Health and Ageing) were challenged by facilitator Julie McCrossin on key ways research can play a role in health reform, drive change and improve primary health care.

The Conference provided a great chance for networking between delegates with lunch time topic tables, a poster reception and a conference dinner. The GP & PHC Research Conference continues to be a 'must go' event for anyone with an interest in primary health care research. Further information about the conference, paper and poster abstracts, plenary and paper presentations, and photos can be accessed through the PHC RIS website <http://www.phcris.org.au/conference/2009/>

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Awards & Prizes

A number of significant awards and prizes have been conferred since our last issue. The Faculty of Health Sciences congratulates the following staff:

- Michael Kidd, Member of the Order of Australia (AM)
For service to medicine and education in the areas of general practice and primary health care and through a range of professional organisations.
- Carole Pinnock, Member of the Order of Australia (AM)
For service to medicine, particularly urological research, and to men's health through the development of support programs for people with prostate cancer.
- Graeme Young, 2009 Distinguished Research Prize
Gastroenterological Society of Australia

- Michelle Miller, Young Achiever Award
Dietitians Association of Australia
- Kathryn Burdon, South Australian Young Tall Poppy Award
Australian Institute of Policy and Science
- Morton Burt, Best Scientific Paper
SA Defence & Veteran Health Research Paper Day

2009 Honours Scholarships

Congratulations to the following students who have been awarded Honours scholarships:

- School of Nursing and Midwifery Honours Scholarship, \$5,000
- Lesley Miegel, supervisor Anita De Bellis
- Susan Dawson, supervisor Jan Paterson
2009 Neil Della Honours Scholarship, \$3,000
- Alex Haines, supervisor Peter Mackenzie

- Cancer Control Alliance Honours Scholarship, \$2,500
- Jean Winter, supervisor Richard Le Leu
- Enoch Vuong, supervisor Wei Zhang
Faculty of Health Sciences Honours Scholarship, \$2,500
- Marissa Brouwer, supervisor Claire Drummond
- Catherine Spirat, supervisor Eileen Willis
- Karen Hawke, supervisor Neil Sims
- Jessica Pietsch, supervisor Michelle Miller
- Jessica MacMullin, supervisor Eileen Willis
Centre for Neurosciences Honours Scholarship, \$2,500
- Garreth Kestell, supervisor Ian Gibbins
- Yi Him Ng, supervisors Neil Sims & Hakan Muyderman

Research Pulse welcomes information regarding grants, awards and honours for publication in future issues.

Celebrating Success in the Faculty

The Faculty of Health Sciences congratulates members who have recently received research grants, awards or honours. The following list shows Chief Investigators who received grants from 15/5/09 to 21/8/09, as advised by the Office of Research.

Australian Research Council Future Fellowship

- Damien Keating: Identifying novel roles of disease-related proteins in the regulation of exocytosis and nervous communication, \$686,400.

ARC Linkage Infrastructure, Equipment and Facilities (LIEF)

- Menz, Robert et al: The South Australian Facility for Small and Large Molecule X-Ray Diffraction Structure Determination, \$560,000.

ARC Linkage Projects

- Bentham, Richard: Investigation of Australian crop species for the rhizoremediation of residual sulfonyl urea herbicide contaminations in agricultural soils, \$78,420.

NHMRC Call for research on H1N1 Influenza 09 to inform public policy

- Gordon, David: Development of recombinant GPI-anchored haemagglutinin of swine influenza H1N1 for serological and immunological studies, \$191,000.

NHMRC NICS-MSRA Betty Cuthbert Fellowship 2009

- Chen, Celia: Optimising the management of acute optic neuritis in people with Multiple Sclerosis, \$75,000 per year.

British Council Researcher Exchange Programme (RXP)

- Nyskohus, Laura: The effect of diet on DNA damage and repair processes in the prevention of colorectal cancer - Travel Grant, \$8,813.

US Department of Energy - Low Dose Radiation Research Program - Basic Biology and Modeling

- Pam Sykes: Identification of mechanisms responsible for low dose radioprotective responses in vivo, \$1,054,449.

Premier's Science and Research Fund & Industry Partner

- Zhang, Wei; Franco, Chris; Tham, Raymond; Clarke, Stephen: Developing a proof-of-concept facility for microalgal biodiesel feedstock and value-added products to pioneer a sustainable South Australian biofuels industry, \$1,154,700.

Meat & Livestock Australia

- Zhang, Wei: Production of bioactives using in vitro culture of cells from organs sourced from the meat processing industry - Phase II, \$510,077.

Cooperative Research Centre for Aboriginal Health

- Kowanko, Inge: Coordinated Aboriginal mental health care – writing bursary, \$10,000.

Flinders Collaborative Research Grant Scheme

- Baum, F; Richardson, S; Arthurson, K; Osborne, K: Developing a research and evaluation framework for an initiative to reduce joblessness in family households in South Australia, \$14,000.

2009 Faculty of Health Sciences Grants - Infrastructure

- Keating, Damien: Measuring electrical signals from single cells, \$39,000.
- Chataway, Tim: Micro-volume protein sample preparation equipment and imaging software, \$36,000.
- Burdon, Kathryn: Equipment to support high throughput genetic research, \$12,000.

2009 Faculty of Health Sciences Grants - Near Miss

- Gordon, David: Characterisation of early virus-cellular interactions in human metapneumovirus infection, \$20,000.

2009 Faculty of Health Sciences Grants - Seeding

- Javanparast, Sara; McIntyre, Ellen: Breastfeeding-friendly childcare centres in Adelaide: Analysis of current policies and practices, \$10,000.
- Burt, Morton; Mangoni, Arduino: Impact of Vitamin D status on risk of cardiovascular disease, \$5,000.
- Saccone, Gino; Carati, Colin; Toouli, James: Pancreatic galanin receptors – expression and localisation, \$12,000.
- Sladek, Ruth; Tieman, Jennifer; Phillips, Paddy: Finding the evidence in Indigenous health, \$10,000.
- Battersby, Malcolm; Pols, Rene; Harvey, Peter; Clark, Richard: A pilot study investigating the neuropsychological profile of problem gambling, \$10,000.
- Battams, Samantha; Henderson, Julie: The right to health, international mental health legislation and policy, and health promotion and care practices for people with mental illness, \$10,000.

- Zhou, Xin-Fu: Roles of p75NTR in the development of Alzheimer's disease, \$12,000.
- van Steenbrugge, Willem: The effects of acute hypoxia on first and second language abilities in late bilingual air crew, \$9,000.
- Ward, Paul; Verity, Fiona; Tsourtos, George: A survey of the 'social quality' of life in Australia: a country-specific arm of an international study, \$13,595.
- Pulvirenti, Mariastella: Understanding how to build resilience against violence; a case study of refugees in NSW, Victoria and SA, \$14,000.
- Ziersch, Anna: Workplace discrimination – to what extent is it an important occupational health and safety issue and what mediates its effects? \$15,000.
- Nyskohus, Lauren: Investigating the importance of DNA strand breaks in the acute cellular responses to azoxymethane (AOM) over time, \$13,000.
- Wilson, Carlene; Hutchinson, Amanda; Kichenadasse, Ganessan: Cognitive effects of treatment for colorectal cancer, \$18,000.
- Wilson, Alan; Gannon, Bren: Is aquaporin-1 present in normal human brain, apart from the choroid plexus epithelium? \$8,000.
- Afshin Shorofi, Seyed; Paterson, Jan; Rowett, Debra: The exploration of the use of over-the-counter medications (OTC) among Australian elderly adults: decision making process, contribution factors, and patterns of use, \$8,000.
- Li, Jordan; Gleadle, Jonathon; Keirse, Marc: Micro RNAs in pre-eclampsia, \$12,000.
- Jackson, Michael: Functional autoantibodies in primary Sjogren's Syndrome disrupt gastrointestinal tract motility by targeting the muscarinic 3 receptor, \$16,000.
- Spencer, Nicholas; Brookes, Simon; Zagorodnyuk, Vladimir: Mechanisms to improve colonic propulsion in human and animal models with symptoms of irritable bowel syndrome (IBS), \$13,000.
- Wadham, Carol: Post-translational regulation of the nitric oxide regulatory protein dimethylarginine dimethylaminohydrolase (DDAH), \$5,000.
- Harrison, James; Elnour, Amr Abou: Epidemiology of self-harm among Indigenous Australians, \$17,000.
- Menezes, Rodrigo: Ultradian rhythms in BAT thermogenesis after immunotoxin lesions of forebrain-innervating noradrenergic neurons, \$15,000.

- Chew, Derek; Pradhan, Malcolm: Health service variability as a determinant of achievement of superior performance and outcome in ACS management, \$10,000.
- Doogue, Matthew; Wigg, Alan: The influence of recipient and donor genetics on the pharmacokinetics of tacrolimus after liver transplantation, \$13,000.
- Flook, Robyn: South Australian Brain Bank – Neurological Tumour Repository, \$9,000.
- Walters, Lucie: Comparing access to health assessments between rural and urban people with disabilities, \$6,000.
- Crotty, Maria; Miller, Michelle; Cameron, Ian; Kurrle, Susan; Whitehead, Craig; Mackintosh, Shylie: Individual Nutrition Therapy and Exercise Regime: A Controlled Trial of Injured, Vulnerable Elderly (INTERACTIVE trial), \$11,000.
- Reed, Richard; Bond, Malcolm; Roeger, Leigh: A RCT of chronic condition self management for older Australians, \$12,000.
- De Pasquale, Carmine: Breathing in chronic heart failure: Elucidating the mechanisms of pulmonary compensation, \$8,500.
- Sharma, Shiwani; Burdon, Kathryn; Craig, Jamie: Genetic and molecular basis of congenital cataracts \$16,500.
- Abbott, CA: Role for dipeptidyl peptidases in the innate immune response during inflammatory bowel disease, \$13,000.
- Catcheside, Peter: The performance of a novel device for postural therapy in position dependent obstructive sleep apnoea patients, \$15,983.
- Menz, Ian: A new drug target for apicomplexan infections, \$12,000.
- Keating, Damien: The role of Down syndrome candidate region 1 (DSCR1) in neurotransmitter release, vesicle recycling and Down syndrome, \$16,500.
- Michael, Michael; Cobiac, Lynne: Butyrate regulated microRNA activity in colorectal epithelium: a role in suppressing cancer? \$13,000.
- Sims, Neil: The role of aquaporin-4 in astrocytes in acute brain disease, \$15,000.
- Wadham, Carol: Post-translational regulation of the nitric oxide regulatory protein dimethylarginine dimethylaminohydrolase (DDAH), \$10,000.
- Ormsby, Rebecca; Sykes, Pamela: The use of whole body low doses X-radiation to reduce tumorigenicity in murine prostate cancer model, \$13,000.
- Macardle, Peter: The function of CD20 in rituximab resistant cell lines, \$15,000.
- Kuss, Bryone: The role of reactive oxygen species and Raf-kinase inhibitor protein (RKIP) in the sensitisation of chronic lymphocytic leukaemia (CLL) cells to rituximab-mediated cell death, \$8,000.
- Dixon, Dani-Louise; Bersten, Andrew: Alveolar fluid clearance in chronic heart failure, \$12,000.
- Chataway, Tim: Proteomic analysis of neural inclusions in Parkinson's and other neurodegenerative diseases, \$14,000.
- Miners, John: Quantitative in vitro – in vivo extrapolation: Realising the promise, \$16,000.
- Carney, Simon; Hussey, Damian; Watson, David: Gut flora in the hypertrophic adenoid: detection of the Helicobacteraceae family in adenoid tissue of children with hypertrophic adenoids, \$14,500.
- Ootsuka, Youichirou; Blessing, William: Ultradian rhythms in basal metabolism; relationship to thermoregulation, cardiovascular function and behavioural arousal, \$16,500.
- Barritt, Greg: STIM1 and Orai1 proteins in store-operated calcium entry in liver, \$14,000.
- McEvoy, Doug: Recognition and management of sleep apnoea in primary care, \$15,000.
- Baum, Fran: Evaluating the effectiveness of comprehensive primary health care in local communities, \$10,000.
- Coveney, John: Food and trust, \$14,500.

2009 Faculty of Health Sciences Grants - Top up

2009 FMC Foundation Grants

Roslyn Donnellan–Fernandez – delivering better maternity outcomes

Roslyn Donnellan–Fernandez is a research higher degree student in the School of Nursing & Midwifery at Flinders University as well as being a Women's and Children's Hospital Foundation Midwifery Fellow 2008–2010. With a combined interest in policy analysis and health services research, Roslyn focuses on workforce and funding reform in the delivery of public sector maternity services to enhance net benefit.

In her research project, Roslyn is using a mixed-method quantitative productivity and efficiency case study and partial economic evaluation to compare an all-risk Midwifery Group Practice service to standard hospital care. She is determining comparative resource use for a select cohort of mothers and babies in each service by examining five years' of retrospective clinical services data and six months of postpartum Commonwealth Medicare utilisation data. In particular, she is analysing measures that inform cost, quality, clinical effectiveness and population health equity in these services.

Roslyn is also undertaking a parallel descriptive policy analysis, examining the political economy of pregnancy and childbirth services supply in Australia. This component of her research examines current federal government health reform processes utilising a critical systems theoretical framework proposed by the Swiss policy analyst, organisational theorist and critical pragmatist Werner Ulrich.



Roslyn Donnellan–Fernandez

Roslyn's principal supervisor is Associate Professor Sheryl de Lacey.

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Bio-Fuelling Better Health

The Faculty of Health Sciences may seem an unlikely place to find a microalgal biodiesel bio-refinery. However, in a recent interview with Associate Professor Wei Zhang, the medical significance of this research became apparent, along with the potential environmental and commercial benefits of this exciting project.

The project is being undertaken by the Algal Fuels Consortium, which draws on the expertise of leading Australian research institutions. Associate Professor Zhang has attributed the project's success to the effective collaboration between internal and external partners including Flinders University, the South Australian Research Development Institute (SARDI), the CSIRO Energy Transformed Flagship, Sancon Recycling Pty Ltd and Flinders Partners. The consortium has secured funding in excess of \$6.5 million from government and industry sources to produce environmentally-friendly renewable fuels and high value products for medical uses and nutritional health.

While their consortium partners work to refine biofuels from microalgae, researchers in the Flinders Centre for Marine Bioprocessing and Bioproducts (FCMB²), Medical Biotechnology and the School of Chemistry are focussing on other aspects of the project. Professor Chris Franco will

focus on applying microbiology expertise towards microalgal strain improvement, Dr Stephen Clarke will develop value-added fine chemicals from a co-product of biodiesel production and Raymond Tham will undertake economic and business analysis of the technology. In addition, Associate Professor Zhang will extract nutraceuticals, including carotenoids, omega-3 fatty acids and bioactive proteins, from the biorefining process.

Nutraceuticals are naturally occurring compounds that have been shown to enhance human health and provide protection against chronic disease. Associate Professor Zhang explained that the nutraceuticals add significant revenue to the bio-refining process and ensure that waste is minimised and biofuels production add to the food supply chains, not place demand stresses on food supplies. It is anticipated that the commercial value of these nutraceuticals will help to make biofuels an affordable and viable source of energy in the future.

This concept of adding value and eliminating waste is also evident in Associate Professor Zhang's work with Meat and Livestock Australia and the Seafood Cooperative Research Centre. While developing nutritional products from materials that were previously wasted, Associate Professor Zhang and his team are concurrently adding value



Associate Professor Wei Zhang

to, and reducing the environmental impact of these industries. As director of the FCMB², Associate Professor Zhang welcomes researchers across the university to collaborate in such projects, as it presents an exciting field of multidisciplinary biotechnology that has significant research and commercialisation potential.

Associate Professor Zhang has recently been appointed to the editorial board of *Biofuels*, a new international journal. He has contributed a key paper which will feature in the inaugural issue to be released in November 2009.

Denise Caretti

For information contact Associate Professor Zhang, wei.zhang@flinders.edu.au

Celia Chen: NICS-MSRA Betty Cuthbert Fellow

Dr Celia Chen has just been awarded the National Institute of Clinical Studies - Multiple Sclerosis Research Australia (NICS-MSRA) Betty Cuthbert Fellowship. This fellowship was established by the National Health and Medical Research Council (NHMRC) in 2003 to provide an opportunity for future leaders in Australian health care to develop their knowledge and expertise in closing the gap between evidence and practice.

Dr Chen is an ophthalmologist working to improve the management of optic neuritis in patients with multiple sclerosis (MS). In this condition, the optic nerve becomes inflamed, resulting in painful loss of vision. However, early detection and management can result in faster recovery of vision.

Dr Chen's research will focus on the clinician - client partnership model of health management and has three main components;

- evidence-based education, informing patients of the research that supports the available treatment regimes;
- development of an action plan so that patients recognise the symptoms of optic neuritis and know how they should respond;
- ensuring the action plan is sustainable and empowers patients with MS.

Dr Chen believes that information is important when a person has MS and that this should be presented in a way that is easy to understand. In keeping with this, she has been delivering lectures to people who have been newly diagnosed with MS through the MS Society South Australia.

Dr Celia Chen, celia.chen@health.sa.gov.au

A review of Research Pulse

The editorial team are seeking your feedback about *Research Pulse*. We are interested to know what you like about this publication and how you think it could be improved. We encourage you to provide feedback by completing a survey available online at www.flinders.edu.au/health-sciences/research/pulse. The survey is also attached to the email notification about this issue.

To enable the wider circulation of this publication and conserve paper, we will distribute future issues without individual address labels. Instead, a quantity of newsletters will be provided to Disciplines and research areas within the Faculty. We will continue to individually address copies to research higher degree students and recipients outside of the Faculty. As always, we welcome your feedback, particularly if you believe this change will cause you or your area any inconvenience.

-The editorial team -

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

Also available online: www.flinders.edu.au/health-sciences/research/pulse

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