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research pulse

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Flinders Centre for Clinical Change & Health Care Research

David Currow

The Flinders Centre for Clinical Change and Health Care Research is one of Flinders University's Areas of Strategic Research Investment (ASRI). In 2004 a group of researchers came together at the Repatriation General Hospital to discuss how they might leverage their individual capabilities and develop an infrastructure that would benefit all members. Paddy Phillips, Maria Crotty, David Currow, Lynne Daniels, Debra Rowett, Malcolm Battersby, Peter Frith, Jan Paterson and Sandra Dunn were involved in those initial discussions and continue to be active contributors in 2005. The SA Department of Health, Southern Adelaide Health Service and the Southern Division of General Practice also indicated their support of the initiative from the outset. An application for recognition as a Research Centre of Flinders University began to take shape and it was decided to focus on four key areas of research strength - evidence based clinical practice, chronic disease management, later life and end of life care. Consideration was given to an application for ASRI status in Round 1, May 2004, but it was decided to defer to Round 2. By this time, Paddy and Maria had engaged a research officer, Stacey Masters, to collate the information required as part of the ASRI application. Prospective ASRI members shared a common goal – to recruit a health economist who would add a further, and highly sought after, dimension to health care research – economic analysis. The clarity of the group's goal, and the prospect of tangible benefits for research teams, has enabled the Clinical Change ASRI to establish itself quite quickly. Having received notification of ASRI status and funding in December 2004, the group held a Planning Day on March 30, 2005 successfully facilitated by Kathy Alexander. A governance structure, principles of collaboration and overarching directions were established. Academic Senate endorsed the establishment of the Flinders Centre for Clinical Change & Health Care Research at its meeting on July 27, 2005. Membership of the Centre has grown steadily. Links with the Department of General Practice, Psychiatry and the Centre for Ageing Studies have been strengthened. Monthly meetings and seminars have continued throughout the year and have been generally well supported. The inaugural Annual General Meeting was held October 7, 2005. Following a call for nominations, a nine member Executive Committee was elected. Simon Eckermann has commenced a 3 year appointment as Assoc Prof in Health Economics. Simon is a health economist with 15 years experience undertaking clinical and health policy related research, the past 5 years as senior health economist at the NHMRC Clinical Trial Centre, Sydney University. His original research includes internationally recognized methods for ratio measurement of provider performance consistent with maximising net benefit; improving comparison of multiple strategies under uncertainty in processes of health technology assessment (HTA) and; applying value of information methods to allow efficient research design for optimal decision making under uncertainty. All requests to access Simon's expertise (within and external to Flinders) will be considered by the Executive Committee of the Flinders Centre for Clinical Change & Health Care Research.

(continued page 2)

Maria Crotty

Simon Eckermann

FACULTY OF HEALTH SCIENCES

From the Executive Dean

Roy Goldie

Colleagues,

2005 is ending on a high note as far as the Faculty's research agenda is concerned. For example, a new Area of Strategic Research Investment (ASRI) has now been added to the list of 5 previously funded Faculty ASRIs. The 6th ASRI is entitled "Health and Society: Equity, Well-being and the Social and Economic Determinants of Health" and is led jointly by Professor Fran Baum (Public Health) and Professor Charlotte de Crespigny (School of Nursing & Midwifery). The ASRI brings together researchers from all 4 Faculties and leverages still further our strong existing collaborative links with the Flinders Aboriginal Health Research ASRI and the Social Monitoring and Policy Futures ASRI. It is also very pleasing to see the 18% increase that has occurred this year over last year in NH & MRC project grants success, resulting in a 38% increase in total research income in 2005 over 2004 from this source. This is a great result for the Faculty that hopefully signals the start of a longer term trend of increasing research income. The Research Quality Framework (RQF) promises to challenge the Faculty of Health Sciences and the University as a whole in more ways than one. However, even at this very early stage in the development of the RQF, it is important to remain in contact with those closely involved with its framing and to effectively communicate what has been established. To this end, the University has established the RQF Reference Group chaired by the DVC (Research), Professor Chris Marlin. This group comprises representatives from each of the Faculties and their job is to receive contemporary information on the emerging RQF, to provide the DVCR with advice and report to their Faculty colleagues, the essence of these information sessions. As you know, I recently invited our Vice-Chancellor, Professor Anne Edwards to present an Executive Dean's Lecture entitled "The RQF: A Work In Progress". Professor Edwards is uniquely qualified to talk to us about the RQF given her pivotal role as a member of the AVCC's Working Party on the RQF. Further, she is a member of the Expert Advisory Group for the RQF, representing the Innovative Research Universities Australia. Clearly, Professor Edwards will continue to play a key role in keeping the University and the Faculty up to date on this important matter.

Roy G. Goldie
Executive Dean, Faculty of Health Sciences

Flinders Centre for Clinical Change & Health Care Research (cont from page 1)

Written requests can be forwarded to stacey.masters@flinders.edu.au. ASRI leaders have pursued opportunities for a closer alignment with the research priorities of State and Australian Government Departments of Health, marketing the group's track record in translational research that improves care. In August, ASRI leaders met with representatives from the Australian Government Department of Health & Ageing in Canberra to discuss research priorities in residential care. Paddy is actively involved in planning for a health services research forum to bring together representatives from the three universities in Adelaide, central office and regional health services to explore ways to strengthen health services research in South Australia. ASRI Members have won grant income in excess of 7.45M in 2005. Sources include NHMRC Project and Enabling Grants, Australian Primary Health Care Research Institute (APHCRI) and Australian Government Department of Health & Ageing. Flinders start-up funding for this ASRI is reserved for the health economist's salary. Simon's appointment at Academic Level D leaves us with a salary shortfall in excess of $10K per annum. We plan to cover this deficit through accurate costing of economic analysis as part of funding applications. This is an essential strategy if we are to extend Simon's appointment beyond the ASRI funding period. Stacey's salary is largely funded through the Department of Medicine. Grant writing success has meant that she is partly funded by a UICRG grant to examine predictors of hospital admission in patients with chronic obstructive pulmonary disease and, more recently, a Foundation Daw Park grant to explore decision-making re entry to residential aged care.

Paddy Phillips

Advances in Autoantibody Research

Autoimmune diseases represent the third greatest clinical burden after heart disease and cancer. There are over 100 different autoimmune diseases of which the best known are type 1 diabetes, hypo- and hyperthyroidism, rheumatoid arthritis, lupus and multiple sclerosis. There are several circumstantial clues to the presence of an autoimmune disease: onset during adolescence or young adulthood; familial clustering; response to various immunotherapies; and association with a genetic marker known as HLA. However, the most direct evidence that a disease is being mediated by an autoimmune process comes from the finding of a circulating autoantibody directed against a normal tissue component. The Autoimmunity Research Laboratory is part of the Department of Immunology, Allergy and Arthritis and has spent the past 25 years researching the properties of these fascinating biological markers. There appear to be two main classes of autoantibodies that circulate in the bloodstream of patients with autoimmune diseases. The first are what we term "classical" autoantibodies that are present in high serum concentration and react with "self" molecules (autoantigens) in the nucleus and cytoplasm of human cells. The best example of this class is the antinuclear antibodies (ANA) which are used as diagnostic markers in rheumatic autoimmune disease such as lupus and Sjögren's syndrome. These are generally not regarded as being pathogenic to the patient, but one the anti-La subgroup are known to be present in mothers whose babies develop heart block requiring a permanent pacemaker and neonatal lupus syndrome. Curiously, the mothers are often asymptomatic despite the presence of circulating anti-La autoantibodies in their blood stream. The Flinders Group has solved this conundrum by demonstrating in an experimental model that the maternal anti-La autoantibodies cross the placenta and bind specifically to cells in the remodelling foetal heart that are undergoing programmed cell death (apoptosis) as part of normal foetal development. It was found that the apoptotic cells in the foetal heart exposed the La autoantigen on their surface allowing binding of the maternal anti-La autoantibodies, leading to damage of the foetal cardiac conducting system and clinical heart block. Because there is no apoptosis in the mature maternal heart, the La autoantigen is not physically available for binding by anti-La autoantibody and the mother therefore does not develop the disease. The other class of human autoantibodies are known as "functional" autoantibodies. The best example of this class is the autoantibody that binds to a surface receptor on the thyroid gland and causes thyrotoxicosis or Graves disease. Unlike classical autoantibodies, these are present in very low concentrations in serum and are difficult to detect by standard immunological methods. Notwithstanding this, functional autoantibodies against surface-exposed targets are likely to be more important in disease pathogenesis than classical autoantibodies directed against intracellular, protected targets. Using physiological assays with live tissues and organs, the Flinders Group have pioneered new ways of detecting functional autoantibodies in diseases such as Sjögren's syndrome and type 1 diabetes. In the former, an autoantibody was discovered that blocks muscarinic receptors involved in salivary secretions and bladder emptying. In patients with type 1 diabetes, a functional autoantibody was found to activate calcium channels on bladder and gut smooth muscle, potentially causing the bowel and bladder dysfunction in these patients. The group also has some preliminary evidence for a functional autoantibody in the sleep disorder narcolepsy, although the target is unknown and the findings require confirmation in larger numbers of patients. The Autoimmunity Research Laboratory has received strong support from the National Health and Medical Research Council over the years and plans to investigate the pathogenic role and diagnostic importance of autoantibodies in neurological disorders such as multiple sclerosis. By using the novel techniques developed in their laboratory it is hoped that new autoantibodies of clinical importance will be discovered in the coming years.

The Flinders Autoantibody Research Team: Petra Neufing, Tom Gordon and Michael Jackson

Bio Med Central Journals Now Available To Flinders Staff

Flinders University is now a member of the open online access Bio Med Central (BMC) journals thanks to a grant from the Library's Research Material funds, University Research Budget. Dr Karin Ried, the Program Manager of the Primary Health Care Research Evaluation Development (PHCRED) program in the Department of General Practice lobbied successfully for the grant application. The grant application was supported by the Medical Research Library and over 30 academic staff. BMC journals offer open access to all published peer-reviewed full text articles in over 130 international online medical and biological journals (www.biomedcentral.com); extensive indexing in bibliographic databases, e.g. PubMed, Embase, Biosis, CAS, CABI; and efficient and quick peer-review and publication. Flinders University is now one of 23 institutions in Australia with BMC membership. Benefits of membership include free-of-charge publication in BMC journals; and opportunities to enhance the University's research profile and citation rates.

Bowel Health Service - Preventing Colorectal Cancer

Bowel Health Service Research and Support staff. From left to right - Jeff Bull, Karen Saxty, Julie Roe, Sandy Connelly, Alicia Smith, Joylene Morcom, Steve Cole.

Flinders University is recognised as a world leader in research into prevention of colorectal cancer (CRC, bowel cancer). One research group, known as the Bowel Health Service (BHS), part of the Department of Medicine, and located at the Repatriation General Hospital, Daw Park, undertakes research into screening for early detection of CRC. The core research team is led by Prof Graeme Young, and comprises RGH based members Stephen Cole (Principal Medical Scientist), Alicia Smith (Research Associate), Joylene Morcom (Nurse Practitioner), Sandy Connelly and Julie Roe (Admin Assistants), and Jeff Bull (Clinical Nurse). Others closely involved include FMC based Peter Bampton (Endoscopy), Dan Worthley (Gastroenterology) and Karen Saxty (Clerical Assistant). Researchers associated with the BHS are key members of the Flinders Cancer Control Alliance. Australia has one of the world's highest CRC incidence and mortality rates and one of the main goals of the research team is to reduce CRC incidence and mortality through the implementation of effective population screening programs. This research requires a significant investment in complex infrastructure within which to develop, compare and evaluate alternative screening tests, programs, or population communication strategies. The BHS has developed this infrastructure over a number of years such that now the group is internationally recognised for their expertise and ability to conduct large population screening trials. These trials informed and guided the successful Australian Bowel Cancer Screening Pilot Program, which has led to $43M funding for the recently announced National Bowel Cancer Screening Program. The group has been successful in obtaining NHMRC project grants to identify key factors associated with population participation and to develop new strategies to improve participation in screening, and has also attracted significant industry funding to evaluate new screening tests. Participation in screening involves complex psychosocial determinants and the group collaborates with behavioural psychologists in the Dept of Psychology, University of Adelaide and CSIRO Human Nutrition to better understand population behaviour in relation to CRC screening. Other areas of interest to the team involve collaborations with Thomas Jefferson University, Philadelphia around Web-based delivery of screening and with the CSIRO Preventive Health Program involving health informatics and data-linking for evaluating screening program outcomes and real-time patient management. The BHS also undertakes research into improving hospital services for people with a previous personal history of CRC. The BHS has trialled innovative approaches aimed at reducing colonoscopy use while improving surveillance quality and coverage through the introduction of simple screening tests. Surveillance programs will become increasingly important following the introduction of population screening and is a key element in the group's coordinated approach to population based CRC prevention research that includes screening test development and evaluation, screening program implementation, disease surveillance, psychosocial and behavioural correlates of screening participation, and improving health data linking for program evaluation and patient management. For further information contact Stephen Cole on 08 82751075, email steve.cole@flinders.edu.au

A New Centre for Antibody Technologies

In 2005 the Australian Antibody Facility was established with the help of a prestigious Premier's Science and Research Fund. The Facility is a collaborative initiative of the Flinders University, Child Health Research Institute, Chemicon International Inc and Neubody Pty Ltd. The leading scientists involved are Professors Robert Rush and Heddy Zola. They have brought together a team of neuroscientists and immunologists with a common goal of identifying and characterizing cell membrane markers, and developing antibodies to them, with potential diagnostic, therapeutic and other commercial applications. The Australian Antibody Facility builds on SA's strong medical research capacity and provides the intellectual environment and critical mass for the State's emerging biotechnology industry. The aims of the Facility are to accelerate the task of identifying new cell surface biomarkers on immune and nervous system cells, and stimulate further development of novel antibody technologies for research, diagnostic and therapeutic use. The facility also aims to ensure existing and new expertise is captured for future exploitation by researchers and industry, and establish a strong technological base for the development of an antibody-based industry in South Australia.

Robert Rush and Heddy Zola

Detecting Blood Doping by Flow Cytometry

The Flow Cytometry Unit at Flinders Medical Centre is one of the most technically advanced of its kind in Australia and specialises in multiparameter and rare event analysis. These attributes have helped Director of Flow Cytometry, Dr Peter Macardle and colleague David Roxby, Manager of the Flinders Medical Centre Transfusion Service to obtain funding from the Department of Communications, Information Technology and the Arts to develop new flow cytometric assays to detect blood doping. Increasing the oxygen carrying capacity of blood is one of the crucial gains sought by athletes to improve performance. This is achieved by training regimes, including training at high altitude, it can also be achieved by illegal 'blood doping' techniques. The use of the hormone erythropoietin has been a problem in this respect, used clinically to treat anaemia, it increases the number of circulating erythrocytes. Illicit use of erythropoietin has been a concern, particularly in the endurance sports such as skiing, cycling and distance running. However, testing for erythropoietin is now routine and it can be readily detected. Possibly because of this, alternative strategies to increase the numbers of circulating red blood cells are becoming more common. One of these is the use of blood transfusions. There are two types of blood transfusion: autologous and homologous. An homologous transfusion is when an individual receives blood from another person, an autologous transfusion is the collection and reinfusion of an individual's own blood. In the appropriate clinical setting both forms of transfusion are important and safe medical procedures, but are illegal when used to gain an unfair advantage in sports. In the case of homologous transfusions, RBCs are matched for the major blood group antigens, A, B and O and for the Rhesus system. As there are over twenty other blood group systems it is comparatively easy to detect homologous blood if an antibody to these unmatched antigens is used to analyse the populations of RBC present in the circulation. Simply, a blood sample is taken, stained with fluorescently labelled antibodies to blood group antigens and analysed by flow cytometry. Flow cytometric analysis allows for large numbers of cells to be screened for antibody binding. As healthy, normal, non-transfused people have one population of RBCs, secondary populations of red blood cells of a different blood group type to the host can be readily detected. A variation of this technique is in routine diagnostic use to detect foetal cells in the maternal circulation. Autologous blood transfusions are more difficult to detect. However, to obtain benefit from an autologous transfusion in blood doping, blood has to be stored for a period of time before the reinfusion. This allows time for recovery from the donation and the reinfusion increases the RBC count in time for the sporting event. Since several erythrocyte membrane proteins change with storage and with age of the RBC, we are developing methods to detect the levels of 'aged' cells in the circulation, thereby providing a means to detect autologous transfusions.

Building Capacity for Nursing Research

The School of Nursing and Midwifery held their second Annual Research Summit at the Stamford Grand, Glenelg on the 29th of November 2005. The theme was "Building Capacity for Nursing Research". The Summit discussed opportunities and challenges facing researchers in an ever changing research environment and enabled the School community and its industry partners to workshop research goals that are achievable, measurable and within the strategic research framework of the School and the University. The speakers were drawn from several disciplines of Flinders University, SA Department of Health, and Massey University & Mid Central District Health Board, New Zealand. The day began with presentations about ASRIs relevant to the SONM, their importance and opportunities they provide for nursing and midwifery. The second session gave insights into how to build a research profile and research capacity, opportunities for transformational research between the University and the Department of Health and an opportunity to learn about the New Zealand experience of Performance Based Research Funding (PBRF). The luncheon break was packed full of interesting poster sessions. The PhD students presented some of their work, as did 3rd year students involved in innovative mentoring projects. The next session concerned the impending Research Quality Framework and its implications for Nursing and Midwifery. The final session outlined the SON&M's current Strategic Research Framework and the audience workshopped ways to further develop and strengthen the Strategy. Most presentations from the Summit are available on www.flinders.edu.au/nursing. In summary the Summit has strengthened the SON&M's existing research partnerships and increased opportunities for new ones, raised its awareness of the QRF and further strengthened its research framework.

Sandra Dunn (left) and other participants at the SON&M research summit

Student Forum

From the School of Nursing and Midwifery

PhD students Donghee Kim, Julian Grant and Jill Mitchell travelled to Fremantle Western Australia early November 2005 to present papers at the 2nd International Congress of Innovations in Nursing (ICIN). All three papers were very well received. This conference attracted a large audience and excellent international and national speakers focusing on innovation and leadership in clinical nursing practice, research and education. Dr Sally Goold was one of the keynote speakers who made an impact with her address 'Australia's Continuing Shame: The Unequal Health Status of Indigenous People'. Julian Grant's presentation was titled 'Culture Communication and Child Health: Preliminary Findings of Research Exploring How Ideas of Culture Shape Child Health Professional Communications with Migrant Parents'. She reported on the preliminary analysis of data gathered for a research project that utilises the concept of cultural safety to explore with child health professionals how ideas of culture shape their communications with first time parents experiencing parenting in a new country. Donghee Kim presented 'The Social Cognitive Behaviour Antecedents of Weight Status in Korean Adolescents: How Social Support Influences Adolescents' Body Mass Index'. The main objective of her research was to explore the aetiology of obesity using a multidimensional approach to generate an ecological framework. This is the first investigation to develop such a model which simultaneously examines social, cognitive and behaviour factors of adolescents in Korea. Jill Mitchell's paper 'An Aboriginal Well Women's Health Program -A Luxury Or Affordable Health Practice?' examined the possibility of transferring a successfully established Aboriginal Well Women's Health program from one remote community in Central Australia and adapting it to meet the needs of Aboriginal women in another remote community in South Australia. The research indicates that the transfer model can be duplicated for other groups and has identified further options for bridging the gaps in key services needed by Aboriginal women in remote communities.

Sally Goold and Jill Mitchell

Hiro Tani at work

From the School of Medicine

After completing undergraduate training in Biochemistry and Genetics at University of Adelaide in South Australia, Hiro Tani obtained a first-class honours degree in Health Sciences at Hanson Centre for Cancer Research at the Institute of Medical and Veterinary Sciences on keratinocyte stem cell research, resulting in a first author publication in PNAS (Tani H et al, PNAS 1999). Hiro is a recipient of Australian Postgraduate Award with stipend, performing PhD studies on the development of a novel method of isolating therapeutic antibodies using phage display at Centre for Neuroscience, Flinders University School of Medicine. In 2001 he was awarded the International Brain Research Organization (IBRO) Fellowship to attend a two-week School of Neurosciences, and to have hands-on experience at four Universities in Hong Kong. In 2002, he was elected the club president of Postgraduate Research Students in the School of Medicine (PRISM) at Flinders University, was the convenor of a monthly PRISM lecture-series for staff and students, and organised a Postgraduate Research Days Conference at Flinders University, where he chaired the meeting alongside the Research Director of Flinders Medical Research Institute. In the same year, he was awarded the New Investigator Award at Australian Society for Medical Research conference, a Kathleen V Russel Prize in Neurobiology from Flinders University, and a competitive Research Student Overseas Conference Travel Grant to present his work at the Society for Neuroscience conference in Florida, USA. In 2003, two patents were filed based on the discoveries made during his PhD research. In 2004 Hiro established a private company to perform phage display-related experiments under competitive industry/government grant in collaboration with his supervisor and an overseas industry partner Cambridge Antibody Technology Ltd, UK. Hiro has recently been offered a postdoctoral position at Stanford University in the Department of Neurology and Neurological Sciences. He will be working with Dr Richard Reimer to characterise the role of amino acid transporter metabolism in epilepsy in 2006.

Promoting Healthy Lifestyles in General Practice

Flinders University, through Dr John Litt, Department of General Practice, is a recognised consortium partner in the Lifescripts Program. The Department of General Practice has been part of a successful consortium that has developed the Lifescripts material for the Australian Government Department of Health and Ageing. The materials have been developed to help GPs in assisting their patients to make behaviour changes in the lifestyle areas, specifically: smoking, hazardous drinking, exercise and nutrition. The materials reflect a combination of best evidence, motivational interviewing skills and pragmatic tools that can facilitate GP involvement in behaviour change for healthier lifestyles. Lifescripts was launched by the Minister for Health and Ageing, Tony Abbott, on September 27, 2005 in Melbourne. The materials will be sent to every GP division in Australia. The website address for materials is: http://www.health.gov.au/internet/wcms/Publishing.nsf/Content/health-pubhlth-strateg-lifescripts-index.htm Dr John Litt won the best poster in the field of integrative and complementary medicine at the recent RACGP Annual Convention in Darwin where nearly 800 delegates attended. The poster outlined the key principles in the new edition of the RACGP guide to implementation of prevention in the GP setting, 2nd edition (known as the Green Book). Dr Litt has chaired the steering committee for the 2nd edition and written the draft that will be published by the RACGP later this year.

Regional Travelling Lectureship Promotes Point-of-Care Testing

Mr Mark Shephard, Director of the Community Point-of-Care Services Unit in the Flinders Rural Clinical School, was invited by the Australasian Association of Clinical Biochemists (AACB) to be its inaugural Regional Travelling Lecturer for 2004-2005. The aims of the Regional Travelling Lectureship are to reach as many rural members of the AACB as possible and provide networking and professional development opportunities. The title of Mark's lecture is 'Community-based Point-of-Care Testing – Taking Biochemistry Beyond the Boundaries'. It provides a personal perspective on how Mark transformed himself from a hospital scientist to a community-based senior research fellow at Flinders University, and describes five point-of-care pathology testing models for chronic disease prevention and management that Mark and his team developed and implemented over the past 8 years. Mark's journey has taken him to places like Bunbury and Geraldton in WA, Burnie and Launceston in Tasmania, Cairns and Townsville in Queensland, Hamilton and Dunedin in New Zealand, with centres including Dubbo and Pt Macquarie in NSW, Traralgon in Vic, Mt Gambier in SA and Alice Springs in NT. It's certainly been a busy year for Mark in 2005. As well as the travelling lectureship, Mark was invited to speak about point-of-care pathology testing in rural and remote communities at international conferences, including the EuroMedLab Conference in Glasgow, Scotland and the joint International Federation of Clinical Chemistry/American Association of Clinical Chemistry meeting in Orlando, Florida. Mark also presented a poster at the Orlando conference, which was awarded a Distinguished Abstract Award by the National Academy of Clinical Biochemistry. Only 25 abstracts (out of 837 submitted for the conference) won this prestigious award.

Mark Shephard (right) with Shirley Cornelius (left) and Leonie Cook (centre), who travelled from Albany to Bunbury in WA to hear Mark's lecture.

The SouthPath and Flinders Sequencing Facility

Recently the Flinders University Sequencing Facility was renamed the SouthPath and Flinders Sequencing Facility. This is the result of a joint effort from Flinders University and SouthPath, Flinders Medical Centre to support and expand the Sequencing Facility. For many years this facility has provided sequencing and fragment analysis (Genescan™) services at competitive prices to Flinders University, FMC and outside customers. The service is managed by Associate Professor Pam Sykes and Dr Scott Grist and is operated by Mr Oliver Van Wageningen. The service runs on a cost-recovery basis except for equipment replacement which has been funded by competitive grants. The demand for sequencing and fragment analysis services is increasing and the lack of critical mass in terms of staff and equipment has made it continually more difficult to provide an efficient service. SouthPath is the largest single customer of the Sequencing Facility and relies heavily on an efficient service for diagnostic provision. SouthPath has recently made financing of a second Sequencer possible and will also provide help in terms of back-up staff when needed. The second Sequencer will have greater capacity than the present Sequencer and should be on line within the next few months. Two Sequencers will also provide back-up ability in the case of equipment failure, and ensure improved turn-around times. The SouthPath and Flinders Sequencing Facility is presently the cheapest and most comprehensive service in SA, performing sequencing reactions, sequencing, and fragment analysis services as well as providing technical advice. As a joint venture, the SouthPath and Flinders Sequencing Facility aims to continue to provide and improve on present service provision into the future. SouthPath and Flinders Sequencing Facility contact details: Oliver van Wageningen, Tel. 8204 5097, E-mail: dna.seq@flinders.edu.au

The Sequencer team, from left: Oliver van Wageningen, Pam Sykes, Scott Grist

Major Research Grants Awarded

Research Pulse lists recent research funding successes worth more than $200,000 as it hears about them. Members of the Faculty of Health Sciences have once again achieved significant funding from NHMRC, including the following project grants:

- David Watson, Glyn Jamieson, Christopher Martin, Garrett Smith: Randomised controlled trials of laparoscopic techniques for antireflux surgery;
- Keryn Williams, Helen Brereton, Douglas Coster, Donald Anson: Lentivirus-mediated gene transfer to the eye;
- Keryn Williams, Helen Brereton, Douglas Coster: Regional immunosuppression for corneal transplantation;
- David Currow, Amy Abernethy, Iven Young, Peter Frith, Alan Crockett, Christine McDonald: Randomised double-blind controlled trial of oxygen versus air to palliate intractable end-of-life dyspnoea when Pa02>55;
- Penelope Lynn: Sensory innervation of anal region in normal and diabetic guinea pigs;
- Judy Morris, Ian Gibbins, Vladimir Zagorodnyuk: Neural circuits producing pelvic vasodilation in females;
- Vladimir Zagorodnyuk, Simon Brookes, Marcello Costa: Sensory mechanisms in normal bladder and in cystitis;
- Xin-Fu Zhou: Roles of peripherally derived BDNF in regeneration of spinal cord and the mechanisms;
- Xin-Fu Zhou, Robert Rush: Analysis of functional role of the BDNF precursor in sensory neurons;
- Tom Gordon, Doug McEvoy: A functional autoantibody in narcolepsy;
- Andrew Bersten, Carmine de Pasquale: Do changes in the lung aid breathing in chronic heart failure?;
- Doug McEvoy, Stuart Baulk, Cameron van der Heuvel, Nick Antic: How does obstructive sleep apnea affect driving performance?

In addition, NHMRC fellowships were awarded to:

- Claire Jessup: Modulation of T cell surface receptors that are dependent on extrinsic tyrosine kinases (CJ Martin Overseas Fellowship);
- Kathryn Burdon: Identification of genes for congenital cataract and other inherited eye disorders (Peter Doherty Biomedical Fellowship);
- Judy Morris (Principal Research Fellow);
- Keryn Williams (Principal Research Fellow);
- Xin-Fu Zhou (Senior Research Fellow).
- The Australian Cancer Research Foundation has announced a major grant to Graeme Young, David Watson, Adrian Esterman, Alec Morley, Pam Sykes and Peter MacKenzie towards the new Flinders Centre for Innovation in Cancer.

The outcome of Round 4 of the ASRI program has just been announced, with four new ASRIs endorsed by Flinders University. A major success for the Faculty of Health Sciences is the new ASRI 'Health and Society: Equity, Well-Being and the Social and Economic Determinants of Health', led by Professors Fran Baum and Charlotte de Crespigny. In addition, Faculty members are involved in two other new ASRIs, 'Applied Cognitive Psychology' and 'Centre for Analysis of Educational Futures: Creating a Knowledge Base for Educational Action'.

Cardiovascular Risk Factor Survey

Dr Andrew Baird is leading a project on cardiovascular risk factors. Dr Baird is based in the Greater Green Triangle University Department of Rural Health, a joint Department of the Flinders and Deakin Universities. The survey component of the population-based research project was completed in March 2005. One thousand randomly-selected Corangamite residents were invited to participate and 43% took part. The survey collected information about health and risk factors for cardiovascular disease using a self-administered questionnaire and a physical health check to record blood sugar level, cholesterol, waist size, height, weight and blood pressure. Three-quarters of the participants were overweight or obese; 95% had elevated cholesterol levels and 50% had high blood pressure. Of the older participants, 7.5% had diabetes. The results indicate higher than expected risk factor rates compared to the general population in Australia. The outcome of this study will help to develop programs that aim to reduce risk factors for cardiovascular disease in the Corangamite Shire. Preliminary results were released in July at the General Practice and Primary Health Care Conference, and also at a dinner for Corangamite participants, GPs, drug company representatives and other stakeholders.

NHMRC Closing Dates

The NHMRC has a new calendar for funding submissions. Key dates include: Project, program and development grants: intent to apply closes 3rd March 2006, full applications due by 5th May 2006. Capacity building grants in population health research: intent to apply opens 14th January 2006, full applications close 16th March 2006. Centre of Clinical Research Excellence and Enabling grants: expressions of interest close 6th February, full applications close 5th May 2006. Complete information is available on (http://www.nhmrc.gov.au/funding/calendar.htm). Remember that all applications must be accompanied by a grant certification form via Glenda Neild in the Faculty Office, in time to be submitted through the Office of Research one week earlier than the above dates.

research pulse *is an initiative of the Faculty of Health Sciences at Flinders University. Comments and suggestions for future articles are welcome.*
Contact – inge.kowanko@flinders.edu.au
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