Healthy Development Adelaide

Newsletter

Volume 3, Issue 3

July 2007

Upcoming Events…

- **14 August**

University of Adelaide Research Tuesday seminar series on *The reproductive revolution: have we gone too far?* by Prof Robert Norman, (see page 3 for more details).

- **23 August**

The Lloyd Cox Memorial Lecture on *Men: the missing half of reproductive health* by Prof David Handelsmans to be held at the University of Adelaide.

- **26 - 29 August**

Fetal and Neonatal Physiological Society annual meeting to be held in Japan.

- **2 - 5 September**

Endocrine Society of Australia and Society for Reproductive Biology annual meeting to be held in Christchurch, New Zealand.

- **8 - 12 September**

Fertility Society of Australia conference to be held in Hobart.

- **19 - 21 September**

Australasian Research Management Society conference to be held in Adelaide.

- **24 - 26 September**

Australian and New Zealand Adolescent Health conference to be held in Christchurch, New Zealand.

For further information visit our events page at:

www.adelaide.edu.au/hda/events

South Australian Cerebral Palsy Research Wins International Recognition

Research into cerebral palsy causation by the **SA Cerebral Palsy Research Group** led by Professor Alastair MacLennan and his research scientist Dr Catherine Gibson from the Discipline of Obstetrics and Gynaecology at the University of Adelaide has been recognised by the Dana Alliance for Brain Initiatives. This Alliance is a non-profit organisation of more than 260 leading neuroscientists, and is committed to advancing public awareness about the progress and promise of brain research. Published annually, the Dana Alliance for Brain Initiatives Progress Report describes the top findings in brain research during the previous year affecting areas such as disorders of development, aging, and movement, as well as mental and thought disorders. In the 2007 Report on Brain Research, the South Australian research showing the association between cerebral palsy and viral exposure to herpes viruses was nominated as the highlight of international research into cerebral palsy. The group has since found common genetic susceptibility factors in children with cerebral palsy that may increase their vulnerability to infection that can damage the developing brain before and after birth.

Any enquiries can be directed to Dr Catherine Gibson: catherine.s.gibson@adelaide.edu.au phone 8161 7610 / 8161 7619

Foundations and Funding Opportunities

The Ian Potter Foundation program areas include arts, community wellbeing, education, environment and conservation, health, medical research, science, and travel. **www.ianpotter.org.au**

The Foundation for Young Australians funds and works in partnership with youth-led initiatives which aim to positively contribute to young people and their communities. **www.youngaustralians.org**

The Macquarie Bank Foundation focuses in six core areas – the arts, education, environment, health care, health research and welfare. **www.macquarie.com/uk/about_macquarie/foundation.htm**

Perpetual manages awards and scholarships in the areas of medical research such as the Clive & Vera Ramaciotti Awards for Biomedical Research. **www.perpetual.com.au/philanthropy**

The March of Dimes funds research aimed at preventing birth defects and infant mortality. These programs include basic research into life processes, such as genetics and development; clinical research applied to prevention and treatment of specific birth defects and prematurity; the study of environmental hazards; and research in social and behavioural sciences. **www.marchofdimes.com**

The Bonnie Babes Foundation funds medical research in the field of perinatal medicine. The focus is on the care of pregnant women and their babies, especially those with complicated medical problems. Such problems include miscarriage, high blood pressure associated with pregnancy, preterm labour and delivery, and poor growth of the fetus within the womb. **www.bbf.org.au**

The Thrasher Research Fund is aimed at finding solutions to children's health problems and advances in prevention and treatment of children's diseases, particularly research that offers broad-based applications. The fund remains open to a variety of paediatric medical research topics such as research on human fetal tissue, behavioural science research, educational programs and scholarships. **www.thrasherresearch.org**

The Myer Foundation funds grants in five areas - arts and humanities, education (early childhood education/development, enhanced educational outcomes, indigenous/rural and remote education), poverty and disadvantage (indigenous poverty, child and family poverty), sustainability and the environment. **www.myerfoundation.org.au**

The Channel 7 Children's Research Foundation of South Australia supports health, educational or social research to encourage and advance investigation into the cause, prevention, diagnosis and treatment of any condition that may affect the general health, education or welfare of children in South Australia and the Northern Territory. **www.crf.org.au**

MEMBER PROFILE - DR NATALIE SINN

NUTRITIONAL PHYSIOLOGY RESEARCH CENTRE, UNIVERSITY OF SOUTH AUSTRALIA

Natalie graduated with first class Honours in Psychology at the University of South Australia and received a double PhD scholarship from UniSA and CSIRO Human Nutrition, giving her the opportunity to conduct research at the interface of psychology and nutrition. Her PhD work, with omega-3 fatty acids and Attention Deficit Hyperactivity Disorder (ADHD) - related problems in children was completed in 2006 and has resulted, to date, in 2 awards, 2 peer-reviewed publications with 2 under review, presentations at 2 international conferences and numerous invitations for public presentations and media interviews.

Natalie is currently working in the Nutritional Physiology Research Centre to continue her work in nutrition and mental health and has just been awarded an APDI Fellowship from a successful ARC-Linkage application to further her PhD work. Her major project involves a study investigating cognitive and behavioural benefits of omega-3 fatty acids across the lifespan and biological markers in two major intervention trials with children who have ADHD and learning difficulties and elderly adults showing signs of mild cognitive decline. She is principal supervisor for a Health Sciences PhD student with expertise in fatty acid analysis who will be working on the project, and will be coordinating the studies at both the University of South Australia and the Queensland University of Technology in Brisbane. She is also supervising a Masters student at RMIT in Melbourne and providing input and assistance into designing and running a cross-sectional study investigating blood omega-3 levels in children with ADHD versus controls.

Natalie has also been involved in a cognitive behavioural therapy intervention for overweight and obesity in adolescents, and is currently supervising a Masters thesis investigating relationships between parenting styles and adolescent weight. Natalie is interested in research investigating the effects of nutrients, lifestyle, food intolerances and environment on mental health and behaviour, parenting styles and child and adolescent obesity.

Dr Natalie Sinn can be contacted by phone 8302 1757 or natalie.sinn@unisa.edu.au

HDA HOLDS 3RD ANNUAL ORATION AND RESEARCH DAY

HDA's 3rd annual Oration was held on Thursday 7 June at the State Library of South Australia. A/Professor Manny Noakes from CSIRO Human Nutrition delivered the Oration 'The science behind weight management'. A/Prof Noakes was presented with the *2007 Healthy Development Adelaide Award for excellence in research contributing to healthy development.* A/Prof Noakes joined CSIRO in 1991 and is leader of the research team that developed the highly successful CSIRO Total Wellbeing Diet books.

I to r: HDA Convenors Prof Michael Sawyer, Prof Robert Norman & Prof Caroline McMillen with A/Prof Manny Noakes holding award.

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HDA's 3rd annual Research Day was held on Friday 8 June at the University of Adelaide. The program focussed on four sessions relevant to Healthy Development engaging expert speakers from all three state Universities, institutions and government in a forum providing opportunities for establishing cross-disciplinary links and collaborations.

Intergenerational Health (child and adolescent psychological health, trends in fatness fitness physical activity and food intake of children 1945-2005, healthy reproduction, research agendas for healthy ageing.

Stem Cell Biology (stem cells and the brain, embryonic stem cells and the future, biology and therapeutic application of mesenchymal stem cells, embryo research - changing regulation and what it means for South Australia.

Healthy Nutrition and Activity for Kids (evolution of paediatric fitness, socioeconomic gradients in obesity, PEACH weight management program, health promotion.

The Developing Brain (getting in early with autism, perinatal iron nutrition, sleep and the child's developing brain, motor and cognitive dysfunction in children and adults born preterm.

A Highlight lecture on *'What health economics can contribute to Healthy Development'* was presented by Prof Leonie Segal the Foundation Chair in Health Economics from the University of South Australia.

The Oration presentation and some of the Research Day talks can be found on the HDA website at www.adelaide.edu.au/hda/news

I to r: Prof Leonie Segal with A/Prof Margie Ripper.

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The Reproductive Revolution: Have We Gone Too Far?

by Professor Robert Norman

The fifth talk in the University of Adelaide's Research Tuesdays seminar series will be held on Tuesday 14 August.

Professor Robert Norman is Co-Convenor of Healthy Development Adelaide (HDA) and Director of the Research Centre for Reproductive Health (RCRH) in the School of Paediatrics and Reproductive Health, University of Adelaide. Professor Norman provides expertise in human and animal reproduction and is particularly interested in assisted reproductive technology.

Synopsis: We are in the middle of a reproductive revolution that is changing the way we think about fertility and social aspects of families. We have also developed new technologies in stem cells that will affect regenerative medicine. Are our technologies in reproduction too far ahead of the social consequences and ethical decisions found in our society?

Time: 5.15pm for 5.30pm start

Venue: Lecture Theatre, Lower Ground, Napier Building. University of Adelaide. *Admission is free.*

Bookings:
research.tuesdays@adelaide.edu.au
or phone 8303 3692

Monthly series of public lectures providing an opportunity for the University's leading researchers to engage with business and community leaders about pressing issues of the day.

THE UNIVERSITY OF ADELAIDE AUSTRALIA

Research Tuesdays Seminar Series

SA Department for Families and Communites

Research Agenda

The Department for Families and Communities (DFC) is committed to building a culture of research and enquiry, and using research to inform planning and practice. The DFC is keen to support and foster high quality, ethical and relevant research, and to build research capacity in the department.

The Research and Analysis Unit is responsible for leading and coordinating DFC's research effort. The Unit provides advice and assistance to DFC staff and others wishing to conduct research. It undertakes a range of research and evaluation projects on behalf of DFC, leads processes to develop research priorities, approves research expenditure and assesses research proposals.

The Annual Research Report summarises the research and analysis activities in 2005-06.

The Strategic Research Agenda (2006-09) identifies the areas in which DFC is keen to stimulate, foster and support research.

The reports can be found at www.familiesandcommunities.sa.gov.au

Contact details:
Manager - Nancy Rogers. phone: 8463 6127.
Senior Project Officer - Krystyna Slowinski. phone: 8226 7056 or email research@dfc.sa.gov.au

HDA SCHOLAR PROFILE - Leigh Guerin

Discipline of Obstetrics & Gynaecology, University of Adelaide / School of Pharmacy & Medical Science, University of South Australia

Leigh Guerin is in his second year of a Healthy Development Adelaide PhD scholarship. Leigh is supervised by A/Prof Sarah Robertson (Discipline of Obstetrics & Gynaecology, University of Adelaide) and Dr John Hayball (School of Pharmacy & Medical Science, University of South Australia).

Throughout my PhD I will be focussing on the regulation of the mother's immune system during pregnancy. Specifically I am interested in how the mother's immune system is regulated so that it will be tolerant of the embryo when it implants into the uterus and begins to develop.

During the first year of my PhD I focussed on the regulation of a suppressive cellular lineage known as regulatory T cells. Specifically we looked at the regulation of their cell numbers prior to embryo implantation.

During the second year of my PhD we will be looking at the ways that T regulatory cells are recruited to their site of action which is the uterus. We will be looking at the pathways by which the cells are trafficked and what attracts them there. We are beginning to build up an understanding of the dynamic regulation of T regulatory cells in both the uterus and the organs of the immune system, and are striving to confirm a working model. Further understanding of the key elements that control these suppressive cells will help our understanding of a range of pregnancy pathologies such as implantation failure, recurrent spontaneous abortion and preeclampsia.

In addition to my PhD studies I have been lucky enough to participate in the organisation of public awareness campaigns such as the world day of immunology (held on the 29th April) as well as the annual Australian Society of Medical Research "Wheelin' out Science" Schools tour. This has given me an opportunity to interact with the public and inform them on the importance of medical research. I have also had the chance to travel and present my work to other experts in the field in places such as Cairns and Auckland.

Overall I have to say that my first year has been challenging, but I am looking forward to my second year as we are beginning to generate a greater understanding of the key influences in immune tolerance during pregnancy.

Recent Funding Successes
Highlighting HDA Members

ARC Discovery Projects

Dr Sheryl De Lacey; A/Prof WA Rogers; Prof Ngaire Naffine; A/Prof Annette Braunack-Mayer; Mrs Bernadette Richards; Mrs AJ Ballantyne
Consent in the void: moral, legal and community values in decisions about human biological donations
Research Centre for Reproductive Health, Law School, Discipline of Public Health - University of Adelaide

Prof Graeme Hugo
Linkages between temporary and permanent migration in Australia
Discipline of Geographical and Environmental Studies - University of Adelaide

Prof Richard Ivell; A/Prof Jeff Schwartz
Establishment of the endocrine axes in the embryo and their xenobiotic distortion
School of Molecular and Biomedical Science, Discipline of Physiology - University of Adelaide

Dr Michael Lardelli; Prof RN Martins
Truncating presenilin mutations and their effects on gamma-secretase activity, tau and beta-catenin - insights into Alzheimers disease and cancer
School of Molecular and Biomedical Science, Discipline of Genetics - University of Adelaide

Prof TJ Nettelbeck; Dr NR Burns; Prof Gary Wittert
Declining mental efficiency, cognitive performance and individual differences in aged function
School of Medicine - University of Adelaide

ARC Linkage Projects

Dr Dan Peet; A/Prof Murray Whitelaw; Dr S Klaus; Dr R Bilton
Characterisation of the oxygen-sensing asparaginyl hydroxylase, FIH-1, and hydroxylase-specific antagonists
School of Molecular and Biomedical Science, Discipline of Biochemistry - University of Adelaide

Prof PR Howe; Prof R Young; Dr Natalie Sinn
Cognitive and behavioural benefits of omega-3 fatty acid supplementation across the lifespan
School of Health Sciences - University of South Australia

Prof Barbara Pocock
Work/Life balance, well-being and health: theory, practice and policy
Centre for Work and Life - University of South Australia

NHMRC A Healthy Start to Life for All Australians Strategic Awards

The major objective of research funded through this strategic award is to identify and reduce the impact of conditions occurring in adulthood which have their origins in the early stages of life. The award focuses on innovative research which has an interdisciplinary and inter-sectoral approach to child health. *A total of seven grants were awarded. For more information go to www.nhmrc.gov.au*

A/Prof Vivienne Moore; Prof Jeffrey Robinson; A/Prof Michael Davies; Dr Megan Warin; A/Prof Philip Ryan; Prof Anthony Worsley have been awarded $1,090,725 for the 3 year project: **Early life influences on obesity and fat patterning in children: critical periods, environmental determinants, and socio-cultural context**
Discipline of Public Health, Discipline of Obstetrics & Gynaecology, Research Centre for Reproductive Health - University of Adelaide
The project will test the proposition that pre-birth and infancy is a critical period for the development of obesity. It will investigate whether there is a distinct period in early life for acquiring the predisposition to harmful forms of fatness. The project also aims to identify practical opportunities for prevention, focusing on mothers and their infants.

A/Prof Michael Davies; A/Prof Vivienne Moore; Prof Jeffrey Robinson; Prof David Phillips; Prof Robert Norman and A/Prof Bianca De Stavola have been awarded 1,961,375 for the 5 year project: **Intergenerational growth and risk of metabolic disorders**
Research Centre for Reproductive Health, Discipline of Public Health, Discipline of Obstetrics & Gynaecology - University of Adelaide
The Lucina study was established thirty years ago. It aimed to study intergenerational health among women, and how conditions in pregnancy can affect the reproductive health of offspring in successive generations. This current study will include enrolling the traced mothers to study how their clinical experiences in pregnancy may contribute to contracting diabetes. It will also seek to enrol the siblings of the daughters so that events in their pregnancies that predict which sibling is at increased risk of diabetes can be identified. The study will also seek to enrol the grandchildren to investigate if pre-pregnancy and pregnancy weight contributes to a higher risk of diabetes and intergenerational growth patterns.