

From the Directorate



Welcome to the Spring 2009 edition of the NRCGD newsletter!

It was great to see so many of you at the NRCGD Science Symposium in Hamilton last month. Most of the sites were well represented at the meeting, and some intriguing science was presented and discussed in an extremely collegial atmosphere. We've had a great deal of positive feedback about the symposium, which offers a rare chance for the whole Centre to come together and share ideas, and an important opportunity for our younger members to present their work.

A special thanks to Trisha, who performed her usual wizardry behind the scenes to ensure that the event went off seamlessly. We're already planning next year's symposium, which will most likely take place somewhere around Auckland.

Change has been the theme for the Directorate office this year. Since the last newsletter we have sadly seen the departure of Felicia (who has taken on a full-time role with Peter in the Office of the Chief Science Advisor) and the arrival of Jane Duffy, our new Communications Officer. Jane comes to us from a background in scientific publishing, and as many of you are already aware she is determined to observe NRCGD scientists in their natural environment! Jane has already visited many of the Sites, and we look forward to further strengthening our internal lines of communication in the New Year. Be warned – Jane usually carries a camera, so when she approaches try not to blink!

Best wishes

Roger

The NRCGD Science Symposium

Between September 30th and October 2nd, 60 NRCGD investigators and associates attended the NRCGD Science Symposium at AgResearch's McMeekan Centre at the Ruakura Research Centre in Hamilton. The symposium was an excellent forum for presentations and abstracts on a range of topics relevant to the Centre's current projects.

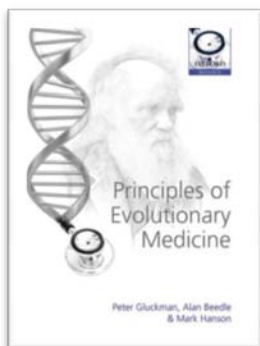
Prizes were given for the best student presentations, and the Best Student Presentation Award went to Erin Daly (Otago) for her presentation 'An epigenetic analysis of first-trimester human placenta'; 2nd place went to Graham Howie (Liggins) for his presentation 'Leptin receptor mRNA levels are reduced in pancreas of male rat offspring following maternal high fat nutrition'; and 3rd to Pritika Narayan (Auckland) for her presentation 'Increased histone acetylation in Alzheimer's disease brain'.



Special thanks goes to AgResearch for allowing the NRCGD to use the McMeekan Centre, and to **Trisha Hiestand** (Directorate Office) for organising the onsite food and general administrative oversight of the symposium.

Our researchers in the headlines

- It goes without saying that **Professor Sir Peter Gluckman** (Liggins), in his role as the Prime Minister's Chief Science Advisor, has been appearing in the media recently. Noted have been television appearances on the *TVNZ Q+A* programme and on *TVNZ 7*; he has also been interviewed by *Radio New Zealand* on a number of occasions.
- Professor Sir Peter Gluckman** (Liggins) was presented with the David Barker Medal at the Sixth World Congress on the Developmental Origins of Health and Disease in Santiago, Chile. This is only the second time that this medal, presented for outstanding leadership and scientific contributions in the field of 'developmental origins', has been awarded.
<http://www.liggins.auckland.ac.nz/uoa/liggins/news/2009/11/liggins-professor-wins-prestigious-medal.cfm>
- Genetics Otago*, an Otago University initiative lead by **Associate Professor Peter Dearden** (Otago), was officially launched in August by **Professor Sir Peter Gluckman**. It is a new University of Otago network devoted to promoting and supporting research in genetics-related areas across disciplines. Genetics Otago aims to be New Zealand's leading centre for advanced genetics research and teaching.
- Dr Mark Oliver** (Liggins) recently received the 2009 National Animal Ethics Advisory Committee (NAEAC) Three Rs Award. This was awarded in recognition of his work on the refinement of indoor physiological studies of sheep.
- Those of you with an interest in chocolate may have noticed that **Professor Christine Winterbourn** (Otago) made an appearance on the TV3 documentary series *What's Really in Our Food*. While we are just seeing the programme now, the segment was recorded late last year.
<http://www.tv3.co.nz/Whats-Really-in-Our-Food-0210/tabid/742/articleID/62061/cat/483/Default.aspx>
- Jacque Bay's** (Liggins) LENSscience Connect programme won the 2009 TUANZ Education Award in September. The LENSscience Connect programme extends the reach of the Liggins Institute's Sir John Logan Campbell Classroom to those students outside the immediate Auckland area via the internet and television. With the aid of Kordia's satellite technology for broadcasting, the programme was able to stream three seminars live to around 300 Year 13 biology students in 2008; in 2009, this was extended to around 100 schools and 1000 participating students.
<http://www.liggins.auckland.ac.nz/uoa/liggins/news/2009/09/liggins-kordia-partnership-wins-tuanz-education-award-2009.cfm>
- Not really in the headlines, but Massey University's **Dr Sarah Pain** and **Maria Loureiro** (PhD student) made a splash at a Palmerston North primary school recently where they introduced kids to biology by dissecting sheep brains – it was apparently very well received!



Notable publications

- Professor Sir Peter Gluckman** (Liggins), **Professor Mark Hanson** (Southampton) and Dr Alan Beedle (Liggins) published the book *Principles of Evolutionary Medicine* in September through Oxford University Press.
- Jacque Bay** (Liggins) has had a paper published in the latest issue of the *New Zealand Science Review*. The paper, part of a special Darwin Commemorative issue, looks at the *Evolution of Senior Secondary School Biology Education in New Zealand: Impact of Changes in Biological Science from 1878 to 2008*.

Travel Report

PhD student **Sarah Morgan** (Otago) recently returned from a trip to Europe. While away she attended the *International Society of Developmental Biologists Congress 2009* and visited labs in several universities. In this article she gives her impressions from the trip, how it has given her a renewed sense of excitement and shown her a world of possibilities for the future.

In October I flew to Edinburgh to attend the *International Society of Developmental Biologists Congress 2009*. This conference occurs every four years and, this year, was attended by more than 1500 delegates. It was my first major international conference and a bonus to be hearing talks from eminent scientists such as Elizabeth Robertson, Sean Carroll, Masatoshi Takeichi, Eric Wieschaus, and Phil Donoghue. All of the science presented was amazing and I felt both awed and proud that I was a part of it.

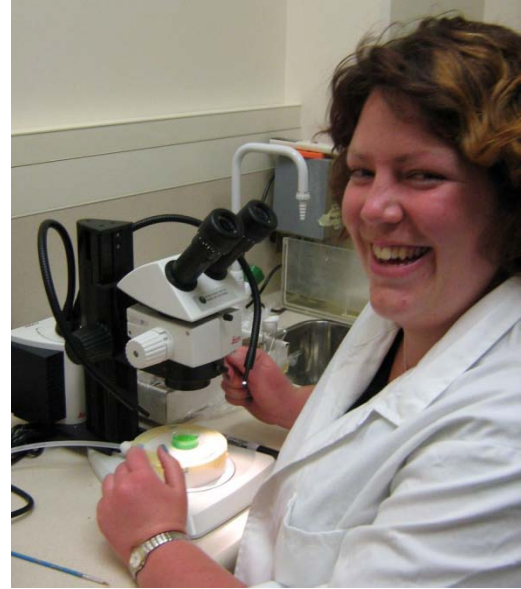
I presented a poster, one of about 900 – so the amount of information and work presented was huge. My poster was as well received as can be expected at such a large conference; it generated some interest and I gained valuable feedback.

Conferences, especially big international ones, are just brilliant! I met with a couple of people from the UK doing very similar work to me and we agreed to swap methods and fly food recipes, which is very cool. Besides the scientists themselves, I met so many other PhD students, from so many countries – friendships and contacts that will prove invaluable when I visit again.

During my stay in Edinburgh, I visited two labs at the University of Edinburgh, one at the town centre campus and one out at the Kings Buildings, and also went out to the MRC Human Genetics Unit to visit a contact in a lab there. Dr Dan Nussey at Edinburgh University is looking into longevity and aging rates in wild populations of long-lived invertebrates, and I found it fascinating to talk about the natural, wild-side of my research with him.

It was awesome to see ‘foreign’ labs and to realise that they are completely identical to the ones at home; to this day, I am still unsure as to what I was expecting.

The week following the conference I travelled to London where I met up with one of the lead researchers in my field, Prof. Linda Partridge, at University College London. She was very impressed with my project and I am now involved in an email conversation about my work with her lead postdoc in that particular research direction, Dr Matthew Piper. I was lucky enough to get a tour of the lab and their ‘fly suite’, which was just amazing and I was quite green with envy at their space, resources, and the scale of experimentation. London is just an awesome place and I would most like to do a postdoc there when I am finished.



Sarah at work in the lab



Whale skeleton at Cambridge Zoology Museum

Whilst in the south of the UK I also went to Cambridge and stayed 2 days with Prof. Michael Akam, whom I had met at the Edinburgh conference and with whom my supervisor has links. The Professor is Director of the University Museum of Zoology at Cambridge and a prominent researcher in the field of evolution and development. I had a tour of Cambridge University, the town itself, and met with a number of postdocs and past members of the labs as my visit coincided with small conference – of which I was able to attend an evening session. Cambridge is far less scary and much more normal than I was expecting, and it was another perfect opportunity to talk with students and postdocs and improve my knowledge base

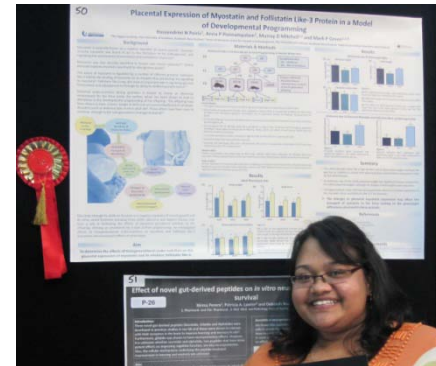
for choosing a career direction. The town itself was just beautiful, an impression helped along perhaps by the gorgeous weather. The history of the place is brilliant too – to learn about it in New Zealand, so far away, and then to see these places myself was almost surreal.

The conference was a brilliant opportunity to get over there and see the universities and meet people – the all-important contact-forming exercise. With all this renewed excitement about my project, I was pleased to be able to get back to Dunedin and get stuck back in, and am very excited about my future. I have a new well of motivation, new ideas, and methods for consideration with regards to my current research and am just completely overwhelmed with how awesome the trip was. I also have a growing list of contacts in my field, and new access to more highly knowledgeable scientists in addition to my own supervisors.

My knowledge of the field has been greatly expanded and my ideas about possible research and career directions widened. So many opportunities!






Congratulations to ...

- **Professor Hamish Spencer** (Otago) has been elected a Fellow of the Royal Society of New Zealand.
- **Professor Sir Patrick Bateson** (University of Cambridge; the Science Advisory Board of the NRCGD) has been made an Honorary Fellow of the Royal Society of New Zealand.
- **Professor Ian Shaw** (Canterbury) has been very busy! He has been made a *Fellow of the Royal College of Pathologists* and won the NZ Association of Scientists Science Communicator Award for 2009; this award is presented to practising scientists for “excellence in communicating to the general public in any area of science or technology”. He has also received the University of Canterbury Students’ Association ‘Total Science Lecturer’ Award for 2009.
- **Professor Hugh Blair** (Massey) is the recipient of both the College of Sciences Supervisor’s Award and the Massey University Research Medal – Supervisor. The September issue of *definingnz*, a Massey University publication, also says that he has been made an honorary principal of the Chinese Academy of Science. Hugh has also been invited onto the Review Panel for FRST’s Leveraging New Zealand Natural Resources investment process.
- **Dr Peter Dearden** (Otago) has been promoted to Associate Professor.
- **Dr Paul Kenyon** (Massey) has been promoted to Associate Professor.
- PhD student **Verity Oliver** (Otago) submitted her PhD in October.
- PhD student **Karina O’Connor** (Otago, Chch) has submitted her thesis titled *The effect of oxidative stress on DNA methylation* since the publication of the last newsletter.
- PhD student **Hassendri (Nel) Peiris** (Liggins) won first prize for her poster presentation at the Exposure09 Postgraduate Research Exposition (run by the Postgraduate Students' Association and The University of Auckland School of Graduate Studies) in October for her poster *Placental Expression of Myostatin and Follistatin Like-3 Protein in a Model of Developmental Programming*.
- PhD student **JianZhong Tang** (Liggins) has recently had a paper on defining dual roles for STAT5 in breast cancer accepted for publication in *Endocrinology*.
- As mentioned already, congratulations to **Erin Daly, Graham Howie** and **Pritika Narayan** who won the first, second, and third prizes, respectively, in the *Best Student Presentation competition* at the NRCGD Science Symposium in September.
- PhD student **Mary (Max) Berry** (Auckland) won a New Investigator Award at the Annual Meeting of the Perinatal Society of New Zealand in Christchurch in October for work on the effect of preterm birth in lambs on later autonomic cardiac function. Max was also the overall prize winner at HealthX this year – a \$5,000 travel grant sponsored by Auckland Medical Research Foundation; this was for work in the same area.
- Also at HealthX, **Dr Kitty Bach** (Liggins) won second prize in the biomedical category for work on novel ventilation strategies in preterm lambs.



Comings and goings

- **Dr Mark Hampton** (Otago, Chch) is currently on sabbatical at the MRC Mitochondrial Biology Unit, Cambridge (UK).
- Around the time of publication, many NRCGD members will be attending and/or speaking at the *International Congress on Developmental Origins of Health & Disease (DOHaD)* in Santiago, Chile.
- **Associate Professor Paul Kenyon** (Massey) is off to Uruguay prior to the DOHaD conference to present Massey University sheep research to farmers and scientists.

-  And more on DOHaD: **Dr Kate Franko** (Liggins) and **Dr Kristin Connor** (Liggins) each received a *Young Investigator Award Grant* (valued at £100) from the International Society for Developmental Origins of Health and Disease for their abstracts submitted to this year's World Congress. Kate's abstract was titled *A new economic model of the long term costs of a poor start to life*; Kristin's was titled *High fat diet during critical windows of development alters adrenal cortical and medullary enzyme expression in adult male offspring*.
-  At the end of September, **Dr Mark Hampton** presented an invited seminar at the Medical Nobel Institute for Biochemistry at the Karolinska Institute in Stockholm, Sweden. The topic was *Mitochondrial peroxiredoxin involvement in antioxidant defence and redox signalling*.
-  **Dr Mark Vickers** recently gave an invited lecture in Greifswald (near Berlin), Germany on the NRCGD-funded leptin-related work. The title of the talk was "Postnatal obesity – what can be done in the early life period?" The invitation was from the Germany Academy of Sciences Leopoldina, which was founded in 1652 and is the world's oldest continuously existing learned society.
-  **Maria Loureiro** is a new PhD student at Massey (she arrived on the 1st of October, just in time for the symposium). Maria's supervisor is **Associate Professor Paul Kenyon** and she will be studying the *Effects of the uterine environment on the foetal adipose tissue in sheep*.
-  **Jemma Geoghegan** (Otago) has started a PhD project on *Modelling transgenerational influences* since the publication of the last newsletter; her supervisor is **Professor Hamish Spencer**.

... and remember to keep an eye on our website at www.nrcgd.org.nz for the latest news.

A word from Jane

What a fast-paced, 7 weeks it's been since I arrived at the NRCGD office at the Liggins Institute! After spending a little time absorbing some of the CoRE's research, it's been a whirlwind of visits to Massey University in Palmerston North, University of Otago sites in Dunedin and Christchurch, and the University of Canterbury. So many faces, interesting people, and projects to remember!

While I've managed to get out and meet some of you, I still have some serious leg work to do. Before Christmas I'm planning a trip to Reporoa, but I still need to meet many of the people based closer to Auckland.

One of the things I'm trying to do is get a clear idea of how the CoRE works so that I can find ways of making the communication work better between the sites and with parties outside the CoRE. I would be interested in hearing your ideas, including suggestions for the website and newsletter revamp. And I want to hear your news, what is happening at your site, and who is doing new things. Remember, if you find it interesting then other CoRE members at other sites will be interested too!

Best wishes,
Jane

Upcoming conferences of interest include ...

4th Asia Pacific Nutrigenomics Conference – Genes-Diet and Gut Health

in Auckland 21–26 February 2010

<http://www.nutrigenomics.org.nz/index/page/220>

24th Fetal and Neonatal Physiology Workshop of Australia and New Zealand

in Wellington 26–27 March 2010

<http://www.med.monash.edu.au/anatomy/workshops/fanworkshop.html>

Perinatal Society of Australia and New Zealand (PSANZ) 2010

in Wellington 28–31 March 2010

<http://psanz2010.eventplanners.com.au/>