



# Barwon Research Bulletin

*Edition 2*

*December 2014*

## A word from the Director of Research..

As we head towards the end of 2014 it is worth reflecting on what this year has meant for Research at Barwon Health.

There's been a lot of positive change and a lot of progress. January saw the approval by the Board of Barwon Health's first Research Strategic Plan, a significant step in defining foundation platforms, priorities and initiatives over the coming years. August brought the rebrand of Barwon Health, research included in our 'tag line' and the renaming of The Geelong Hospital, to University Hospital Geelong; in recognition of our increasing academic engagement and research and education profile. This includes research outputs, which are up again from last years' total to approximately 360 peer reviewed manuscripts describing research conducted at Barwon Health and including Barwon Health clinicians, staff and researchers as authors and co-contributors.

Our staff and clinical academics have also been successful in competitive grant funding, recognition of scholarly achievement and significant academic appointments and discipline leadership.

There have been some changes within the Research Directorate over the course of this year with the Office of Research also being

'rebranded' with a new name, REGI and largely new staff the Unit has been busy developing procedures and processes that will lead to increased efficiency and effectiveness of ethics submissions and research governance approvals. The creation of a new role within the Directorate, of Health Services Research Coordinator, and the appointment of Stephen Gill to this position will ensure that there is the opportunity to grow and support Health Services Research at Barwon Health.

The Commonwealth government committed funding towards the Geelong Centre for Emerging Infectious Diseases and the design development work for this exciting addition to Level 3 of the TTR Building has included significant input from the future users of this space. Level 2 will also be partly fitted out with new research space for established research groups, currently in Kitchener House, and education and training space for Allied Health and Nursing. The building works will commence early in 2015 with occupancy on these floors expected in the third quarter of the year. Relocated and new research teams will foster a vibrant research culture in this newly fitted space.

2014 also saw the appointment of a new Professor, with Professor Richard Page appointed as Chair of Orthopaedic Surgery, Richard entertained and inspired the audience at his Inaugural Professorial Lecture during Research Week. The winners

and outcomes of the Research Week Awards are highlighted within this newsletter, so take a moment to read and celebrate their achievements.

This year saw the launch of the Western Alliance, a 'virtual' Academic Health Science Centre, with Barwon Health as a partner in this regional collaborative network of health services, healthcare organisations and Deakin University. The first regional projects have been funded and we look forward to further developments in research capability and capacity building across the region.

It's been a busy year and a good year, on behalf of the Research Directorate I wish you all a safe and happy Holiday Season and every success in your research plans for 2015!

Professor Frances Quirk  
Director of Research



# Research Week Highlights



On Monday 10th Nov Barwon Health Research Week was launched with a keynote speech address by Professor Terry Speed (Walter and Eliza Hall Institute, Melbourne) who is a recent Eureka Prize winner for science engagement. Terry gave an informative and entertaining talk to a large crowd on the topic of 'Epigenetics',

The popular Barwon Health Research Week Poster Competition culminated on Wednesday with prize giving and celebrations (winners are highlighted below) and the new Chair of Orthopaedics, Professor Richard Page. Richard gave us a personal look at his achievements in his inaugural professorial address "Big Data- Big Difference"

The Smart Geelong Network **Researcher of the Year** prize was awarded to **Professor Bronwyn Fox** who leads the carbon fibre and composite research team in the Institute for Frontier Materials at Deakin University.

Congratulations also to the following Smart Geelong award winners for 2014.

- **Highly commended, Researcher of the Year Award:** Dr Luke Henderson
- **Barry Jones Medal:** Sue De Gilio
- **Smart initiatives for healthy minds and healthy bodies award:** Dr Michael Smith
- **Innovation in infectious diseases award:** Justin Eastwood
- **Innovation in biotechnology award:** Dr Luke Henderson
- **Innovative and sustainable technology award:** Prof Bronwyn Fox
- **Innovation in community care and disability award:** Prof Karen Stagnitti
- **Innovation and creativity in education award:** Jenny Perks
- **Early career innovator of the year:** Ludovic Dumee and Danielle Hitch

## Poster Awards

This year REGi received 66 high quality poster completion entries. Congratulations to the following researchers on their Poster Competition awards.

**Neel Heerasing** – Most Outstanding "Health Outcomes/Clinical Practice" Research Poster: Prevalence of eosinophilic oesophagitis in adults presenting with oesophageal food bolus obstruction. (No photograph available)



**Gemma Vincent** – Recipient of two awards: Most Outstanding "Basic Science" Research Poster and Most Outstanding "Early Career" Research Poster for: Molecular epidemiology of Coxiella Burnetii in Australia.



Professor **Richard Page** accepting the award for **James Fraser-Moodie** - Outstanding "Clinical Research" Research Poster: "The Down Under Lesion: A Subtype of Labral Lesion in Shoulder Instability".



**Fiona Collier** -Most Outstanding "Population Health" Research Poster: "Establishment of the Barwon Infant Study (BIS) Repository".



**Lucinda Gabriel** – Most Outstanding "Service Delivery/Health Systems" Research Poster - "The INSinCC (Insurance Status in Clinical Care) study: Characterising the relationship between patients' insurance status and mortality risk in the ICU".



**Natalie Hyde** – Most Outstanding "Audience Choice" Research Presentation - "Puffing During Pregnancy; Are We Compromising Offspring Bone Development?"

## NHMRC Grant Success

Two Barwon Health based research groups were successful in this years' NHMRC Project Grant rounds. Congratulations to **Professor Michael Berk** and his team for grant awards for two projects they are involved in:

ASPREE-D; Aspirin in the prevention of depression in the elderly, \$767,594 over 4 years.

and

Gene Expression Signature Technology to repurpose drugs for Bipolar Disorder: \$467,203 over 3 years.

**Congratulations also to A/Professor Peter Vuillermin** and his team on grant success for a 5 year project: -

The relationship between maternal and infant dietary intake of fermentable fibre, gut microbiota, short chain fatty acids and allergic disease and asthma.

A population derived birth cohort study.

\$843,749



## Student News

Three PhD students with projects based at Barwon Health have participated in Confirmation of Candidature Seminars;

**Dr Andrew Cheng**, Cardiology Research Fellow (Primary Supervisor- Professor David Watters)

**Dr Douglas Stupart**, Department of Surgery (Primary Supervisor- Professor David Watters)

**Sarah Dash**, IMPACT SRC (Primary Supervisor- A/Prof. Felice Jacka)

**And Congratulations to Dr Patrick Maher**, Department of Surgery (Primary Supervisor -Prof David Watters) on his Completion Seminar

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## Research Highlights

### BH-Deakin Researcher in Lancet

Volume 384, No. 9948, p1085–1086, 20 September 2014

<http://www.sciencedirect.com/science/article/pii/S0140673614616615>

The crowdsourcing model of raising public funds online for individual projects is becoming a real possibility for medical and scientific research. Nayanah Siva reports.

“Melanie Thomson, Deakin University, Australia, was more than surprised that her quite niche campaign, “mighty maggots” managed to raise nearly \$10 000 for a pilot clinical study that would use sterile medical maggots to remove necrotic flesh in Buruli ulcer—an endemic skin disease caused by *Mycobacterium ulcerans* local to her small town in Geelong, Australia.”

## Update on BIS BIOsamples

From Dr Fiona Collier

Birth cohort studies are recognized internationally as an important platform for the investigation of childhood diseases. Here at the Barwon Infant Study (BIS), University Hospital, Geelong, we have established a world-class cohort with a uniquely detailed array of physiological measures and clinical outcomes - complemented by a comprehensive collection of relevant **biological samples**.

The aim of BIS and the laboratory team at Barwon Health has been to establish a state-of-the-art biorepository for all the important **biosamples**. When they arrive at the labs they are catalogued in a database, processed and/or individually aliquoted, barcoded, and stored.

As of November 2014 we now have more than **90,000 individually aliquoted biosamples** that are stored in one of: (i) three large -80°C freezers (ii) five liquid nitrogen storage tanks (-160°C), (iii) -20°C chest freezers or (iv), storage boxes.

Samples that have been removed for validation or experimental studies have displayed excellent viability and reproducible measures for all biological factors. In addition, with specimens from mothers, newborns, and infants at 1, 6 and 12 months, BIS holds one of the **best set of longitudinal stool samples in the world!**



## Research in the News

### 'Grow your own' body parts, a step closer after stem cell breakthrough

**The Age:** The prospect of using a patient's own cells to make organs and tissue to treat a specific medical condition has been boosted after an international team of scientists, including 15 Australians, identified a new kind of stem cell.

The newly discovered stem cell is a type of pluripotent cell. These cells can be programmed to become any cell type in the body, from brain to heart, and can be used to grow new organs and tissue for transplant.

The findings were published in Nature this week (11 Dec). Nature 516, 192–197

### Former University of Queensland professor charged over alleged fake Parkinson's research

**ABC News:** A former University of Queensland (UQ) professor who falsified a breakthrough study on Parkinson's disease has been charged with 16 fraud-related offences.

A whistleblower first raised questions about the work of Bruce Murdoch and his colleague Dr Caroline Barwood. The pair published a research paper in a high-profile international journal heralding a major breakthrough in the treatment of Parkinson's disease.

#### Did you know?

REGI offers expedited review for projects with prior HREC approval from other NHMRC accredited HREC's and for negligible risk projects (including audits) see our website <http://www.barwonhealth.org.au/research/column-1/office-for-research>

## Selected Recent Publications & Presentations

Brennan SL, Lane SE, Lorimer M, Buchbinder R, Wluka AE, Page RS, Osborne R, Pasco JA, Sanders KM, Cashman K, Ebeling PR, Graves SE. Associations between socioeconomic status and primary total knee joint replacements performed for osteoarthritis across Australia 2003-10: Data from the Australian Orthopaedic Association National Joint Replacement Registry. *BMC Musculoskeletal Disorders* IN PRESS (accepted 18/10/2014)

Pasco JA, Lane SE, Brennan SL, Timney EN, Bucki-Smith G, Dobbins AG, Nicholson GC, Kotowicz MA. Fracture risk among older men: osteopenia and osteoporosis defined using cut-points derived from female versus male reference data. *Osteoporosis International* 2014; 25: 857-862.

Williams LJ, Berk M, Henry MJ, Stuart AL, Brennan SL, Jacka FN, Pasco JA. Depression following fracture in women: a study of age-matched cohorts. *BMJ Open* 2014; 4: e004226.

### Conference Presentations

Dr Michael Smith, Mrs Sharon Sharp, Dr Jacqueline Pawlak, A.Prof. Andrea De Silva and Adjunct Prof. Hanny Calache. - "Gross dental decay treatment in young children under general anaesthetic". - International Association for Dental Research (IADR), 92<sup>nd</sup> General Session and Exhibition of the IADR, Africa/Middle East Regional Meeting, Cape Town, South Africa. June 25-28, 2014. Presenter Dr Michael Smith

Dr Michael Smith, Mrs Sharon Sharp - "Kinder Wide Smiles" - International Association for Dental Research Australian/New Zealand Division (IADR ANZ), 54<sup>th</sup> Annual Conference Brisbane, Australia. September 29 - October 01, 2014. Presenter Dr Michael Smith

## Upcoming Events

**Next RRC meeting**  
**10 February 2015**  
(Submission date 27.01.15)

**Next BH HREC meeting**  
**11 February 2015**  
(Submission date 28/01/2015)

## Novel Noel Publication

### A cracker study!

MJA reports a study on the most effective ways to win with Christmas crackers

**The surprising benefit of passive-aggressive behaviour at Christmas parties: being crowned king of the crackers** E Huang, D Clifford and K Lê *CaoMed J Aust* 2014; 201 (11): 694-696

The authors conclude that the passive-aggressive strategy of failing to pull has a high rate of success at winning Christmas crackers; however, excessive adoption of this approach will result in a complete failure, with no winners at all. <https://www.mja.com.au/journal/2014/201/11/surprising-benefit-passive-aggressive-behaviour-christmas-parties-being-crowned>



# Biostatisticus sapiens

(common: Biostatistician)

By Stephen Lane

## Get your Git on

Git? Who you calling a Git, git?

One of the tools I use daily is git (<http://git-scm.com/>). Git is a distributed version control system.

What does that mean exactly? Without getting technical, it means that you can store versions of your documents and code for analyses, across various systems/computers, and even with other people (GitHub is an example of the sharing part).

So is there a catch (yes, sort of), and what is it? Well, you'll have to learn some git commands, and if you want to version control your reports and manuscripts, you may well want to consider writing them in a flat file format. A flat file format is a simple text document, without all the formatting that you would get in, for example, a Word document. This is generally the biggest barrier that people have when moving to writing in a different format.

Why do we need to bother with changing the format in which we write reports and/or manuscripts? It's to do with the way that git does version control. Put simply, git stores incremental changes to your file, rather than *whole* versions. And herein lies part of its power! No longer do you have to store a whole sequence of files, with stupidly incremented names such as report-draft-02-12-2014.docx, which when you want to work on in a couple of days' time, you'll save a new copy and rename so that you can go back to the previous version if required. That's totally inefficient!

Now, if you only generally have a small number of versioned drafts, then sticking to Word documents might suffice, as they're generally small in size, and these days, storage is cheap. But what about collaborating? Word has *track changes*, which displays each of your collaborators edits in a different colour, along with the edited text, but how then to combine all those edits, when everyone has saved different versions of the document? Word also has a *combine* feature, which shows and compares the edits in two documents, but I've generally found this to be messy. You still need to keep some form of control over who sees the document and when, otherwise it becomes too hard to manage.

Using git diff to look at changes between different *versions* of a file is a much easier way (IMO) to track changes both by myself, but also with collaborators. But there's the rub: you also need to convince your collaborators that it's worthwhile changing their workflow, and old habits die hard!



Finally, using git is a great way to backup your work. You can commit your data files, reports, etc. to a git repository on your personal/organisation network share simply, which means you'll hopefully never lose your work, and it's also accessible wherever your network is accessible - brilliant!

I'm going to discuss writing reports in [markdown](#) (which works fantastically with git, and with a few tweaks, produces some really nice html output) in another post, so for now:

```
$ git init
```

*This post first appeared on [www.StephenELane.com](http://www.StephenELane.com)*

## RESEARCH TIPS

REGI has three types of review based on level of risk

- Negligible risk projects (and Audits) are eligible for an Exemption
- Low risk review by the Research Review Committee (RRC)
- Greater than low risk projects have a two-step review firstly by the RRC and then proceed to a full HREC review

Many QA and negligible risk projects can be exempt from full HREC review, however these will be reviewed by REGI with advice from the Barwon Heath HREC where appropriate.

see REGI website <http://www.barwonhealth.org.au/research/column-1/reg>

See guidelines on the REGI website