MELBOURNE IS A MAGNET FOR GREAT MINDS.

SCIENTISTS ARE DRAWN TO THE FLOREY AND IN THIS EDITION, YOU’LL FIND OUT WHY.

MEET TWO - ONE LURED HOME FROM THE US AND THE OTHER FROM FRANCE AND BOTH ARE STELLAR PERFORMERS.

(PAGE 3 AND 5)

Main photo: Visiting scientist, Dr Ana María Sánchez-Pérez from Valencia in Spain.
Dear friends and colleagues

As we launch into the scientific year, the Florey will experience some significant expansion and creative growth as a result of our ambitious international recruitment program. Inevitably, this will be accompanied by some belt-tightening as our recruitment drive coincides with our move into our two new buildings.

With the return to Australia of the Florey’s Dr Daniel Scott and Dr Ben Emery along with international stem cell specialist Prof Martin Pera, we can be reassured that the Florey is making its contribution towards reversing the brain drain that has seen so many of our most talented scientists take their skills overseas. As a part of this influx, we also welcome Dr Mathias Dutschmann and Dr Hari Subramaniam from Leeds University in the UK.

They are joined by young Swiss researcher Dr Stephanie Bissiere who has flown-in to work with the Neuropeptides and Behavioural Neuroscience divisions as a senior research fellow. Stephanie comes from the Department of Psychology and Brain Research Institute at UCLA, USA. Her fascinating research involves the way mammals store fear memories and the way they might impact on mental disorders.

This year will also usher in a new commitment to fostering our female scientists with the inaugural fellowship for its major disorders.

Ben Emery, one of the Florey’s senior fellowship holders, has received the AW Campbell Award from the Australian Neurological Society for his postdoctoral research.

The AW Campbell Award is named after the eminent Australian neurologist and is granted to the best contribution by a member of the Australian Neurological Society in their first five postdoctoral years.

This award recognises a series of publications by Ben and his colleagues including a Journal of Neuroscience paper in 2008 (Cahoy et al., 2008) which has been cited 374 times since its publication.

A 2009 paper in the prestigious journal Cell (Emery et al., 2009) also received significant attention. Ben received the award for his work as a postdoctoral scholar at Stanford University where he worked with one of the world leaders in the field of neurology, Professor Ben Barres.

“I finished my PhD at Melbourne in 2005, and then received the CJ Martin award from the National Health and Medical Research Council. I went to Stanford University and ended up working there for five years. Much of the work this award recognises began there,” Ben says.

“I returned to the Florey and the University of Melbourne’s Centre for Neuroscience in 2010. There is a fantastic concentration of neuroscientists at the Florey and Melbourne, so it’s a great environment to continue my research and build up a lab.”

Berl’s work concentrates on the development of myelin, the insulating layer of fatty material that protects nerve cells and allows them to conduct nerve impulses. “My research focuses on understanding how oligodendrocytes (the cells that produce myelin in the brain and spinal cord) develop, and what signals drive them to produce myelin.”

“We largely look at the development of oligodendrocytes and myelin either in young mice or in tissue culture, because we can more easily manipulate specific genes or signals in those environments.”

These experiments have important implications for Multiple Sclerosis because if we can identify what drives the development of myelin during development, we may be able to use this information to develop treatments that promote the repair of myelin when it is damaged in MS.”

“I first developed an interest in MS while doing my PhD with Professor Trevor Kilpatrick. Subsequent contact with people with MS through groups such as Multiple Sclerosis Research Australia and the Myelin Repair Foundation has kept me strongly focused on this line of research.”

His next projects will focus on a NHMRC project grant. “Much of our work involves studying a gene I identified at Stanford that helps drive the myelination process. We hope that by understanding how this gene acts to promote myelination and, in turn, how this gene is turned on, we can use this information in human diseases such as MS.”

“I’m also involved in a Multiple Sclerosis Research Australia project grant with Dr Kaylene Young at the University of Tasmania and Dr Tobias Merson at the Florey in which we are looking at ongoing myelination in the adult brain. This is largely uncharted territory, so it will be exciting work to be involved in.”

Ben combines a career as a researcher with time with his family (his partner, a medical doctor and their three year old daughter) and, when he can get out of the lab, spending time outdoors kayaking or rock climbing.

Ben says winning the award was a little overwhelming, “particularly when I look at the list of previous awardees, there’s a lot to live up to there!”

Rod Paterson, known as “Super Surge” to his colleagues, will be a name familiar to many people currently working in the upper echelons of bioscience.

Rod started his working life as an apprentice fitter and turner with the railways. But niggling in the background of his mind was a keen interest in medical science. He attended night school for a number of years to gain qualifications which would enable him to transfer his experience and technical skills to the medical research arena. In 1959, he joined the union research unit directed by Drs Derek Denton and Jim Goding as a technical assistant, and life took a very different turn.

Although he had originally wanted to study medicine, Rod then took a course in physiology and began to assist with experimental work carried out in the new animal house in Swanston Street. That unit (also known as “the sheep Hilton”) accommodated up to 40 sheep in wire-floored pens and in summer, Rod remembers the smell being quite overpowering. The animals had to be transported in a mobile cage across the courtyards in front of the north/south lecture theatres and, embarrassingly for their technician, the cage frequently fell over, freeing the sheep and creating havoc as they tried to avoid recapture.

During the 60s, Rod worked closely with the legendary Madame Pietzcker (page 7) to set up and run the surgery at the fledging Howard Florey Institute. Animal surgery has always combined mechanical skill with delicate needlecraft, and Rod worked with many fine surgeons both in Australia and America to perfect his technique.

Rod and his wife, Barbara, enjoy hearing what’s happening in the lives of past colleagues, and look forward to the possibility of a Florey reunion during 2012.

If you would also like to keep in touch with us, please contact our Donor and Alumni Relations Officer Hazel Westbury on 8344 9678.
### Ready to get brainy?

The 2012 Brain Fitness Challenge is on again from August 15 to 23.

This year’s challenge is shaping up to be the trickiest yet so grab five mates, don your thinking caps and start exercising your brainy muscles. Cognitive wheels oiled? Logic sound? Ready to do battle? Here are some samples of what you might encounter.

#### Verbal skills:

The following blank spaces indicate a word which begins with E.

E

Unscramble the remaining letters to fit the word above and then select which category the word belongs to:

A: feeling  B: chemical  C: luminosity  D: activity

#### Visual search:

There is a nine (9) letter word hidden in the table below. To find it you can use any touching letter (horizontal, vertical or diagonal), but you cannot ‘jump’ letters or use any letter twice.

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Which word did you find?

A: Workloads  B: Washboard  C: Boardwalk  D: Shortword

#### Pattern recognition:

How many triangles can you count in the following picture? Take your time.

A: 6-9  B: 10-15  C: 16-18  D: 19-21

#### Logic:

What number comes before ‘5’ in the following sequence?

5 4 9 1 7 6

A: 0  B: 2  C: 8  D: 10

### Women in Science – Our Endowment Grows

Some 67 per cent of all Honours and PhD students within the Florey today are women, and around half of our post-doctoral scientists are also women. However, that ratio is not carried through to female representation at an executive level.

The Florey’s “Women in Science” initiative aims to raise $5 million to establish an endowment which will support a Fellowship for a senior female scientist and research assistance for scientists on maternity leave. Ms Naomi Milgrom contributed $500,000 to launch the fund, and this has been augmented by several substantial gifts from other philanthropists who are passionate about scientific research into the brain.

In its role as trustee for the Fred P. Archer Charitable Trust, the Trust Company has now generously offered to “seed fund” the Fellowship for three years whilst the fundraising campaign is in process.

Fred P. Archer was born in 1890, the son of a drover. He served Australia in two World Wars, becoming one of a famous band of “Coast Watchers” working behind enemy lines in the Pacific Islands in WWII. He moved to New Guinea in 1923 and stayed for 54 years. Following his retirement he devoted himself to philanthropic work, largely supporting education in PNG and the Islands. Shortly before his death in 1977, Fred formed his company into a charitable trust to be managed in perpetuity with dividends distributed each year to charities in PNG and Australia.

If you and your family are interested in helping support our bright young female scientists, please have a chat with our Community Engagement and Fundraising manager Astrid Sweres on (03) 8344 0411 or astrid.sweres@florey.edu.au

### Attracting the world’s best

The Florey family welcomes Dr Stephanie Bissiere who has joined our Neuropetides and Behavioural Neuroscience divisions as a senior research fellow. Stephanie comes to us from the Department of Psychology and Brain Research Institute at the University of California in Los Angeles (UCLA).

Stephanie, where are you from, originally, and tell us about your career leading up to your time in the US at UCLA?

I am originally from Toulon, in the south of France, a very picturesque fishing town. I did my PhD at the University of Basel and Friedrich Miescher Institute in Switzerland in the lab of Prof. Andreas Luthi. I trained as an electrophysiologist looking at dopamine, GABAergic inhibition and plasticity in brain regions involved in fear memories. After a couple of years working for Novartis Biomedical Research Pharma in Basel and Boston, I went back to academic research, joining the lab of Prof. Michael Fanselow at UCLA were I spent four years before coming here.

Describe your last home environment while you were in the US and how it differs to Melbourne’s?

The first really noticeable difference for us (partner Nicolas Plachta and daughter Rose, 18 months) is the weather. We went from the ‘extra predictable’ of never a single cloud in the sky - to four seasons in one day! The second one is transportation. After four years of non-stop driving I ride the train and tram everyday. That’s a nice change. Melbourne and Australia in general is a much nicer place to raise children, Rose is very happy here. Nicolas is the second recruit of EMBl Australia at Monash University. The facility is the first associate member of the European Molecular Biology Laboratory.

Why did you choose to come to the Florey?

The Florey has given me a fantastic opportunity to start my own independent career and is host to some of the best neuroscientists of Australia working in very different and exciting fields. With the opening of the Melbourne Brain Centre, it provides an outstanding environment for my research, for collaboration and for bringing some of my interests closer to the clinic.

Please tell us about your research work.

I work on mechanisms of learning and memory and in particular how fear memories are encoded and remembered across the lifespan of mammals. This is very important so we understand how a variety of mental disorders can arise. I use multidisciplinary approaches ranging from animal models, molecular biology, electrophysiology and imaging - all of which I am preparing to use.

Last year you won a Young Investigator Award from the Brain and Behaviour Research Foundation. What was that for?

The Young Investigator Award is an American foundation that provides support for the most promising young scientist doing neuroscience research. The award is mostly based on one’s track record and was awarded to me for my research on the role of electrical synapses and fear memories, which was published in Science last year.

Why is neuroscience an exciting place to be working right now?

Neuroscience is moving really fast these days with amazing new technologies but they are so many things we still need to understand. The concept of electrical synapses as a mean of communication between neurons, for example, was first proposed by Camillo Golgi, a Nobel laureate, more than 100 years ago. But only now are we starting to unveil their functions and relevance for brain physiology and higher cognitive processes.

Long-term, from a career-perspective, what do you hope to achieve?

A big multidisciplinary group with lots of international people working really hard, lots of funding and great publications!

If you would like to help Stephanie further her work on fear memories and mental disorders through a donation, please contact Astrid Sweres on 03 8344 0411.
FAST FACTS ABOUT PARKINSON’S DISEASE

- It affects around 64,000 people in Australia and 16,000 in Victoria
- About 25 Australians are diagnosed every day
- One in seven of those diagnosed will be under 50 years of age
- It impairs movement and cognition and patients in the advanced stages depend on 24-hour care from loved ones or professionals
- It is the most common progressive neurological disorder after Alzheimer’s Disease
- Symptoms result from the progressive degeneration of brain cells, including those that make dopamine

SHEDDING LIGHT ON PARKINSON’S DISEASE

A free public lecture will offer an introduction to Parkinson’s disease by one of Victoria’s most experienced neurologists.

Neurologist Professor Mal Horne has dedicated his professional career to helping patients living with Parkinson’s disease. Mal is a practising neurologist at St Vincent’s and also an active investigator at the lab bench, working with his colleagues to improve treatments and, one day, to find a cure.

But there is still much to learn about this aggressive neurodegenerative disease that affects people in so many different ways. As Mal says: “It’s 195 years since James Parkinson first described this condition, and still only the symptoms can be treated.”

The Florey’s Neurodegeneration team takes a long-term view to its research into Parkinson’s. By understanding the causes of Parkinson’s, the team hopes to develop disease-modifying and even disease-preventing drug therapies. Part of their approach is to find ways of diagnosing the disease very early, even before symptoms are present and before too many cells are damaged.

One group is researching the use of stem cells to slow the progression of the disease, but time is a great healer of sore backsides and Kieran is preparing to jump back on his bike.

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“You might remember that last year, the intrepid cyclist, Kieran Donlon, left Cairns on an epic 4000km bike ride to raise money for the Florey’s research. He arrived back to his home town of Warrnambool in south western Victoria after 25 days on the saddle.

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“My goal is to help Florey researchers develop better treatments so my wife Julie can gain a better quality of life sooner.”

Kieran is inviting all cyclists with an interest in Parkinson’s to join him, either for part or for the entire ride. He is also looking for financial support and sponsorship.

If you would like to be a part of this fantastic inaugural event, please contact Kieran directly on (03) 5562 1607 or his mobile 0409 553 536.

Alternatively, drop an email to our Community Engagement & Fundraising Manager Astrid Sweres astrid.sweres@florey.edu.au for more details.
THANK YOU TO THOSE WHO HAVE GENEROUSLY GIVEN TO THE FLOREY NEUROSCIENCE INSTITUTES BETWEEN DECEMBER 2011 AND FEBRUARY 2012. LISTED ARE THOSE WHO KINDLY GAVE $250 OR MORE.

The William Angliss (Vic) Charitable Fund • ANZ Banking Group Limited • Terrence Bates • Sandra Benjamin OAM • Besen Family Foundation • Graeme Bowker • Robert & Doris Carter • L E W Carty Charitable Fund • Barbara Coltman • Stuart Colyer • Community Enterprise Foundation • Richard Cotton AM • John Coughlan • Brett Cousins • Geoffrey Davey • Matthew Donazzan • Kieran Donlon • Marlene Dryen • David Feldman • Karen Filo • The Finkel Foundation • James Hancock • Geoff and Helen Handbury Foundation • Ivor Ronald Evans Foundation • George & J M James • Anne Kantor • Gina Langlands • Margaret Livermore • Shirley Long • Kevin Luscombe AM • Irene Lynch • John MacDougall • Christine Malesic • Richard Munt • Nano Technology Systems • John & June Nixon-Smith • Joy Oaten • Sue O’Neill • Judith Overbeek • Justine Paragreen • Angelos & Janet Pavlakis • The Lynne Quayle Charitable Trust • David Shaw • Frances & Keith Shaw • Betty Smith • Stephen Spargo • Christine Sweeney • Hans Von Strokirch • Jean Thomas • Harrison Young

IN MEMORIAM. We greatly appreciate all the gifts we have received in memory of loved ones. Those remembered here are: Nathan Black, Michael Crotty, Brent Proctor, Patricia McNamara.

GIFTS IN CELEBRATION. Guests at the wedding of Mr & Mrs Brett & Samantha Cousins; 50th wedding celebration for Mr & Mrs Hartley & Meryl Tobin.

KEY DATES AND OTHER NEWS

MAY 2012


For more information visit www.dcconferences.com.au/wcnr2012

OCTOBER 2012

31 OCTOBER: 16th Kenneth Myer Lecture – free
A very special guest: witty, charming and a long-term science geek, author Bill Bryson.

NOVEMBER 2012

1 NOVEMBER: An intimate lunch with Bill Bryson
...at a venue yet to be announced.

Florey Neuroscience Institutes is the amalgamation of the Howard Florey Institute, the Brain Research Institute and the National Stroke Research Institute.

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