The Federal Government has provided a further $39.8 million to the Melbourne Neuroscience Project in the May Federal Budget.

Florey Neuroscience Institutes (FNI) is the lead agency in the project, which also includes the University of Melbourne, the Mental Health Research Institute and Austin Health. The provision will come through the government’s Health and Hospitals Fund and it allows for the construction and fit-out of the Parkville and Austin research facilities.

Professor Geoffrey Donnan, Director of FNI, said “The funding is the final piece in our $225 million building project. To raise $225 million is a massive achievement and we are delighted to see the Federal and State Governments so strongly supportive of neuroscience in Australia”.

The $39.8 million is on top of the $37 million committed by the Federal Government in 2006, $53 million from the State Government, $65 million from the University of Melbourne and $30 million from major donors.

A further $17.5 million has been granted to the University of Melbourne for the development of the Centre of Neural Engineering which will be based at the Parkville site. This group brings engineers and neuroscientists together to develop new approaches to understanding nerve cells, biological neural networks and whole brain function. The work will also assist in the creation and use of technology to enable the development of neural prostheses. FNI researchers will be working alongside their colleagues from the University of Melbourne on this project.

Professor Trevor Kilpatrick, Deputy Director of FNI and Director of the Centre for Neuroscience at the University of Melbourne said, “This generous funding will certainly increase our capacity to undertake cutting edge neuroscience and mental health related research that will translate into tangible benefits for the community as a whole”.

Images of the construction can be viewed at http://blogs.unimelb.edu.au/neuro/
I would particularly like to thank FNI’s Chairman Mr Charles Allen AO and our ‘Brain Appeal Committee’ led by FNI Board member Harrison Young, as well as Clare McGee and Jenni Elliott who led the writing of the final submission for the $39.8 million Federal Government grant.

This submission was a collaborative effort with the Mental Health Research Institute and Melbourne University, and their support was crucial to the success of the application, as was the support of the Ian Potter Foundation, the Myer Foundation and family, FNI Board members and other donors, the University of Melbourne, Austin Health, the Federal and State Governments, and the Ministers and parliamentarians who lobbied on our behalf for a successful outcome.

Attracting and keeping the best neuroscientists in Melbourne is our renewed focus, and we have committed to the reorganisation of our science into 12 divisions. Rather than researchers working in silos they are now part of a larger division which encourages collaboration across campuses and between clinicians and basic scientists.

THE DIVISIONS ARE: IMAGING, BEHAVIOURAL NEUROSCIENCE, MULTIPLE SCLEROSIS, CLINICAL TRIALS, STROKE, STATISTICS & INFORMATICS, EPILEPSY, NEURODEGENERATION, SYSTEMS NEUROPHYSIOLOGY, COGNITIVE NEUROSCIENCE, REGENERATION & PLASTICITY, AND NEUROPEPTIDES.

The divisions are led by senior scientists across the two campuses and they meet regularly to discuss scientific progress. We aim to grow the divisions and significantly increase their knowledge sharing. These are two steps we have taken towards meeting my organisational goals for the next 12 months.

We are better placed than ever before to meet the funding challenges facing FNI, we are beginning the cross-fertilisation of ideas throughout our research streams, and we are embarking on greater collaborative efforts.

Prof Geoffrey Donnan, Director, Florey Neuroscience Institutes

STUDENTS ON THE WAY UP

Brain Matter(s) recently spoke with two students working in Huntington’s disease, Michelle Zajac and Terence Pang, about their upcoming research paper and their promising research careers.

You are about to publish a joint scientific paper, what is it about?

M: “The paper we have had accepted is about how two different types of stimulating environment, voluntary wheel running and environmental enrichment, enhance the production of brain-derived substances that support the survival of neurons differently in wild-type and Huntington’s disease mice. The most important finding was that voluntary running can rescue, in female mice but not in male mice, the deficit in brain-derived substances that support the survival of neurons seen in Huntington’s disease mice.”

When did you develop your passion for science?

M: “I loved science and experimenting since I was small, from learning all the bones in the body, to growing crystals from our chemistry set.”

T: “My interest in biological sciences started at kindergarten when I remember flipping through encyclopedias and reading about the natural world and wildlife.”

What drew you specifically to neuroscience?

T: “Neuroscience appealed to me because humans are grossly similar yet develop and exhibit vastly different personalities. Ultimately it is the subtle difference in brain function that contribute to the complex nature of human sociology.”

Being young researchers, what would you like to be doing in five years?

M: “Next year I would like to be doing a postdoc overseas, but after that I will just have to wait and see.”

T: “I would like to publish sufficient papers to establish myself in the field of stress-related depression. Wine making however, is another passion.”
WHAT IS NEUROPLASTICITY AND HUNTINGTON’S DISEASE?

The newly formed Regeneration & Plasticity Division at FNI is active in trying to find a cure for brain injury following brain trauma or the restriction of blood supply to the brain from stroke. The Division also investigates the exciting area of brain plasticity and how environmental stimulation may delay the onset and progression of disorders such as Huntington’s disease (HD).

A/Prof Anthony Hannan heads research into brain plasticity and we spoke to him about his team’s research into Huntington’s disease.

What exactly is HD?

“HD is a fatal inherited single-gene disorder in which there is progressive degeneration of neurons in specific brain areas. Neurodegeneration is associated with cognitive problems, psychiatric symptoms and movement disorder. HD is one of an increasing number of brain diseases (including fragile X syndrome, fragile X tremor/ataxia syndrome, myotonic dystrophy, Friedreich ataxia and many spinocerebellar ataxias) known to be caused by expanding DNA (a “genetic stutter”) in the disease genes.”

What is brain plasticity/neuroplasticity and what does it have to do with HD?

“Neuroplasticity is the brain’s ability to reorganise itself by forming neural connections throughout life. Neuroplasticity allows the neurons (nerve cells) in the brain to compensate for injury and disease and to adjust their activities in response to new situations or to changes in their environment.

Studies undertaken by my team continue to demonstrate that environmental stimulation promotes neuroplasticity in mice, and delays the onset and progression of HD and other brain diseases. They are now looking for molecular targets for ‘enviromimetics’: novel drugs which would mimic or enhance the beneficial effects of environmental stimulation.

Interestingly, they have been able to show for the first time that depression in HD can be modelled, and ameliorated by enhanced mental and physical activity. They have identified key molecules involved in this psychiatric disorder. This will have implications not only for HD, but for depression in the wider community.

Further study of gene-environment interactions and experience-dependent changes in the nervous system may lead to new therapeutic approaches for HD and other brain disorders.”

FNI TO DEVELOP AUSTRALIA’S FIRST STROKE REGISTRY

Florey Neuroscience Institutes are developing a pilot stroke registry that will cover as many as 20 hospitals across Australia. The Australian Commission on Safety and Quality in Health Care selected the pilot registry to test and validate the draft Operating Principles and Technical Standards for Australian Clinical Quality Registries. Pharmaceutical company Allergan has also provided funding for the registry.

The Australian Stroke Clinical Registry (AusSCR), as it will be known, will be the first ongoing record of the extent of stroke in Australia, and one of only a handful in the world.

AusSCR will track changes in hospital admissions, complications associated with stroke, and treatment outcomes. It will create a benchmark from which other epidemiological studies can be undertaken, and it will share data sets with equivalent studies overseas.

Dr Dominique Cadilhac, who is leading the study, said, “We expect to gather data from 8,000 patients over the next 12 months, and our main focus is to improve treatment for stroke patients”.

“We will be comparing our data with colleagues in Sweden to see whether there are any significant differences in how we treat this life threatening condition. We expect that this information sharing will provide valuable insights for clinicians in Australia and Sweden”, Dr Cadilhac said.
**FNI STEM CELL SCIENTIST AMONG THE FIRST TO BE AWARDED VICTORIA-CALIFORNIA COLLABORATIVE GRANTS**

Victorian stem cell scientists from the Florey Neuroscience Institutes, the Australian Stem Cell Centre and Monash University are the first recipients of collaborative grants under the Victoria-California Stem Cell Alliance.

The four collaborative stem cell projects are the first to be funded under the International Alliance between the State of Victoria and the California Institute of Regenerative Medicine (CIRM).

The successful projects were submitted to the CIRM Early Translational Research Awards that are designed to move promising basic research in stem cell science toward the clinic for eventual patient benefit.

A total of 72 applications were received at CIRM, with a total of 15 selected to receive funding at this time. Four are Victorian collaborative projects.

Dr Clare Parish from FNI, Professor Colin Pouton from Monash University and Professor Evan Snyder from the Burnham Institute of Medical Research in California will be leading one of the projects. Their project, “Developmental Candidates for Cell-Based Therapies for Parkinson’s Disease (PD)”, aims to identify the best candidates for cell-based therapies for PD using animal models.

The Californian collaborators have discovered that human neural stem cells (hNSCs) may exert a beneficial impact in animal models of Parkinson’s disease. While some of the hNSCs differentiate into replacement dopamine cells (the cells that release dopamine, a chemical that regulates movement), much of the benefit is derived from stem cell action called the “Chaperone Effect” – whereby hNSC-derived cells that do not become dopamine neurons contribute to the reversal of severe Parkinson’s symptoms in other ways. The Chaperone Effect represents a more encouraging near-term method of using cells to address this serious condition.

Many questions remain in the process of developing these cell based therapies, and it is the aim of this project to answer some of them by studying different methods and cells from which to create hNSCs.

Professor Pouton’s team has expertise in developing and purifying the cells to give them the best chance of working in a later stage animal model. Dr Parish’s expertise lies in the implantation of these cells into a mouse model of Parkinson’s disease. If the mouse models work, further examination will be undertaken in a larger animal model in California.

Dr Parish said, “This project brings together scientists who each have a special expertise within stem cell research and focuses on collaboration where each step fits together like a jigsaw puzzle. It will bring basic science much closer to treatments for serious symptoms of Parkinson’s disease”.

The team has invested its efforts to understand the mechanisms of Ndfip1 activity, and has discovered that Ndfip1 is secreted by cultured neurones as microvesicles called exosomes. Whilst cell culture experiments are important for gleaning biochemical and molecular insights, the team also understands the importance of whole animal studies in the intact brain.

To mimic the effects of cerebral ischaemia the team has shown that Ndfip1 is strongly associated with the survival of neurons following ischaemic brain injury. Together, these studies are extremely promising in manipulating Ndfip1 to save brain cells from dying following injury.

**RESEARCH ADVANCEMENTS IN TRAUMATIC BRAIN AND SPINAL CORD INJURY**

Other vital work undertaken by the Regeneration & Plasticity Division at FNI is in the area of traumatic brain and spinal cord injury. Professor Seong-Seng Tan who heads the Division has been active in trying to find a cure for brain injury following brain trauma or the restriction of blood supply to the brain from stroke. His research is concentrating on the naturally expressed neuroprotective protein Ndfip1.

Prof Tan’s team has shown that brain cells that over-express Ndfip1 are protected from cell death following injury. Biochemical experiments have shown that Ndfip1 can be artificially expressed in cultured neurones, and that this is protective against stress from metal toxicity. To understand this process, a major effort to find targets for Ndfip1 has intensified.

...
There are a number of ways you can choose to give to the causes you believe in — apart from making a personal gift, you can arrange events such as art exhibitions, trivia nights, dinners, garage sales, movies or theatre nights and golf tournaments, and donate the proceeds.

A unique and very special way to arrange a gift is in honour of a wedding, birthday or anniversary. We are very fortunate to have been the recipient of such gifts in recent times.

Late last year, Doreen and Bray Kenmar were celebrating their 50th wedding anniversary and invited their guests to make a gift to Parkinson’s research at FNI instead of buying them presents. We received 41 gifts which totalled $3,680.

Prue Dally became a supporter of Parkinson’s research in 2008, and when her daughter Katharine married Dion Brant (pictured left) they encouraged their wedding guests to donate to two different charitable causes in lieu of wedding presents. Parkinson’s research at FNI was one of the beneficiaries, and received $2,410 from 23 gifts.

We congratulate Doreen and Bray on achieving 50 years and Katharine and Dion on their wedding, and sincerely thank them and their guests for their very generous support.

If you would like to arrange a fundraising event or a very special celebratory gift to support our work, please contact Margit Simondson on 03 8344 1833 for assistance.

HMS TRUST TO FUND COMMUNITY HEALTH STUDY FOR STROKE PATIENTS

The Helen Macpherson Smith Trust has been a generous supporter of the Florey Neuroscience Institutes over many years, and is continuing its partnership with us through a grant towards a very important community health research project.

It will be coordinated by Dr Dominique Cadilhac, Head of Public Health Division at the Austin campus of FNI, and collaborators with Baker IDI, Monash Medical Centre, Alfred Hospital, and a general practitioner.

Chronic Disease Management (CDM) plans are a government-funded general practice initiative designed to help people improve modifiable lifestyle risk factors like blood pressure, cholesterol and blood sugar levels in those suffering from chronic diseases of various kinds.

However, the concept has never been tested in stroke, the leading cause of adult disability. Dr Cadilhac’s team believes these CDM plans would be highly relevant to stroke survivors living in the community to help them avoid having another stroke – this is unfortunately very common.

A CDM plan provides a comprehensive in-home assessment of patients; an education component to teach patients how to minimise their chance of having further events; and a seamless transition from hospital to General Practitioner (GP) care.

"Usual care" is the standard discharge practices of hospitals to community care, and does not provide these three important stages.

This important study will determine whether this shared team approach can be used to improve patient risk factor profile at an acceptable cost. Because there are extra incentive payments to GPs for adopting this Medicare-funded plan, clinician participation is likely to be high and it can be easily implemented.

We are very fortunate to have been the recipient of such gifts in recent times.

For Stroke to Fund

There is a bequest from Yasuko Myer, tragically killed in an air crash in 1992 along with her husband Kenneth B Myer.

Ken Myer, along with his friend and confidant, Ian Potter, founded the Howard Florey Institute and was its President for 21 years until his untimely death.

Yasuko Myer supported her husband’s lifelong commitment to the Florey, and this final distribution in her estate brings the total of her benefaction to $596,062 – indeed a generous and lasting gift.

Whilst such major gifts are very welcome and highly appreciated, so are bequests of any size, for collectively they ensure that vital scientific research can continue well into the future.

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A BEQUEST IS A LASTING GIFT

Some of the most beneficial gifts we receive come in the form of bequests, for these are often significant in their size and non-specific in their nature. Thus, they can be used where the scientific need is the greatest and where the maximum impact can be achieved.

One such bequest was realised recently with the final distribution in the estate of Yasuko Myer, tragically killed in an air crash in 1992 along with her husband Kenneth B Myer.

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WHAT WE DO FOR OURSELVES DIES WITH US. WHAT WE DO FOR OTHERS LIVES ON.

A bequest is a simple but powerful way to support future generations. If you haven’t already done so, please consider including Florey Neuroscience Institutes in your Will.

Few legal documents are more important to the people and causes you care about than your Will. Leaving a bequest to FNI is a celebration of your achievements that will have a direct impact on brain research, and could lead to improved treatments or cures for the many brain disorders causing distress today.

If you would like further information on making a bequest please contact our Community Engagement & Fundraising Manager Astrid Sweres on 03 8344 1888 or email bequests@florey.edu.au for a confidential discussion. Astrid can provide you with all the necessary information regarding appropriate wording to ensure that your gift fulfils your vision for the future.
THANK YOU TO EVERYONE WHO HAS GENTEROSLY GIVEN TO FLOREY NEUROSCIENCE INSTITUTES BETWEEN MARCH AND MAY 2009. LISTED ARE THOSE WHO KINDLY GAVE $1,000 OR MORE.


IN MEMORIAM. WE ALSO RECEIVED DONATIONS IN MEMORY OF THE FOLLOWING LOVED ONES: UNA MAY JOHNSTON, FAY TOMORAD, SHEILA DRIVER, DOROTHY DEUTRAM, NORMAN LAMB, HARRY BOONSTRA AND ELIZABETH BRYAN.

Q AND A WITH AN FNI MAJOR DONOR

Brain Matter(s) speaks with Nerissa Mapes, a remarkable young woman with a busy work and private life who also happens to have Parkinson’s disease. Over the past 12 months, Nerissa has raised $20,000 towards Parkinson’s research at FNI.

You recently donated $20,000 towards Parkinson’s Disease research at FNI. What event/s did you undertake to raise this money?

"It took me around one year to raise $20k and I put on a bunch of different events. The main events, though, were two comedy nights – POP Comedy and DAVESFEST ’09."

Did you find it difficult to organise the event? How do people generally respond to you when you ask them to donate their time, space, in-kind, or financial support?

"I have never had anyone really knock back a request to help. In fact, I get people offering to help me... and most of the time I don’t know what to say! Logistically the comedy nights weren’t too difficult to arrange. The venue knew the money was going to a good cause and they could not have been more helpful. The comedians were also great – once they knew their schedules were clear they were all happy to be involved. The biggest challenge was “bums on seats”. With so much demand for the charity dollar people have to be really connected to a cause to support it. And people are busy – it is hard to get them to commit to an event in advance. Getting people to come is always hard but most definitely worth it in the end."

Why do you think people respond to you positively when there may be some fundraising fatigue?

"People never fail to surprise me with their generosity. When I started raising money for Parkinson’s I thought it would be a hard sell – it isn’t a cute or sexy illness (what is?!), and it is never going to be “cause of the month”. People respond to my story. I think there is something in there that everyone can relate to. I am real and I am raw. Maybe they can see themselves in my position..."

What advice would you give to someone who wants to undertake a fundraising event?

"Don’t even try to do it alone! You need an army of people – and you have to be able to rely on them. Give people clear roles so they can own the outcome. Get your friends to work for you. Ask them to commit to bringing three people each. It will take the pressure off getting people there and allow you to concentrate on other stuff. You need to tell people why you are raising money for the cause – especially if you have a personal connection. Tell the story. ... People relate to people, not concepts."

Good luck!