

From Michael's Desk

One of the key principles of NZBRI is that an active neurological research programme can and should lead directly to improved standards of clinical care. Perhaps the most direct expression of that is our new Dementia Prevention Research Clinic (DPRC). The key word in that name is 'Prevention': in this programme, we are recruiting people who have the first signs of declining memory function but do not have dementia. This is a condition known as 'mild cognitive impairment' (MCI). At NZBRI, we've developed a lot of expertise in identifying MCI in people with Parkinson's disease. In this new initiative, however, we're looking at the general population, where MCI is a strong indicator of the risk of developing Alzheimer's dementia. This is a glass half-full vs glass half-empty situation, though. About half of people with MCI will not go on to develop Alzheimer's. The question is whether we can identify what factors influence what path people will follow. Are they things we can't (yet) change, like genetics, or are they lifestyle factors (like education, exercise, or diet), or related to the protective effects of medications taken for other problems (like heart disease)?

The Christchurch clinic is led by Professor John Dalrymple-Alford, with medical assessments being done by neurologists Professor Tim Anderson and Dr Campbell Le Heron, and geriatrician Dr John Elliot. They are supported by a multidisciplinary team, including neuropsychologist Karelia Levin and research nurse coordinator Marie Goulden. Dr Toni Pitcher runs the biological sampling programme and Dr Tracy Melzer manages the brain scanning assessments.

"It's time to put the ambulance at the top of the cliff rather than at the bottom."

The DPRC is a national initiative, with branches open in Auckland, Dunedin, and now Christchurch. The first 15 people have been assessed in Christchurch, with the aim of ramping up to seeing 50 new cases a year, who will then receive annual follow-up assessments. By combining resources, we'll recruit a sizeable cohort of people across the country. We are poised to learn a lot from this intensively-studied group. In turn, they themselves will then be well-placed to benefit from newly-developed treatments or therapeutic approaches. We also hope to learn how the health system could be improved to deal with their needs: this relatively mildly-affected group falls through the cracks of our current approaches. It's time to put the ambulance at the top of the cliff rather than at the bottom.





Welcome Dr Fiona Ciaran



We would like to extend a warm welcome to the NZBRI staff team, to Dr Fiona Ciaran who joins us as the new Fundraising and Events Manager.

Fiona has an extensive background in multi-million dollar asset gathering, art curation and event management. She also once ran Selwyn College in Dunedin. Before coming to CMRF she was a senior development consultant at the University of Canterbury.

We are delighted to secure Fiona's talent for our organisation, so please make sure you say hello at our next event.

Researcher Profile – Megan Stark

• Tell us a little bit about yourself

I was born and raised in New Plymouth, Taranaki. After High School I came down to the University of Canterbury to study Physics and Astronomy, continuing on to the Medical Physics Masters' program at UC. In my thesis year I worked with Dr Tracy Melzer and the Parkinson's disease research group at the NZBRI on the early-phase FBB positron emission tomography (PET) study. I was lucky enough to receive a Doctoral scholarship from the University of Otago in Christchurch to continue this research for my PhD.

• When did you decide that Brain Research was what you wanted to do?

I had chosen to research brain imaging in Alzheimer's disease for an assignment, and probably ended up doing a lot more reading than was strictly required! The literature at that time was highly focused on brain amyloid imaging as a way to identify at-risk individuals, up to twenty years before the onset of disease. This was so exciting to me and really brought to light some of the ways brain imaging and research can be directly applied to benefit the community. I'm so glad to have had the opportunity to be involved in similar research at the NZBRI.

• What are you doing research-wise at the moment?

I am currently examining amyloid PET data, acquired in 115 participants with Parkinson's disease, in relation to baseline cognitive assessments and magnetic resonance imaging (MRI). We aim to establish if there exists any correlation between cortical levels of misfolded protein accumulation and baseline cognitive scores. As the participants continue through to the three year follow-up, I will investigate whether amyloid load at baseline accelerates the development of dementia in Parkinson's. We also aim to acquire tau PET

imaging in many of these same individuals, beginning in 2018.

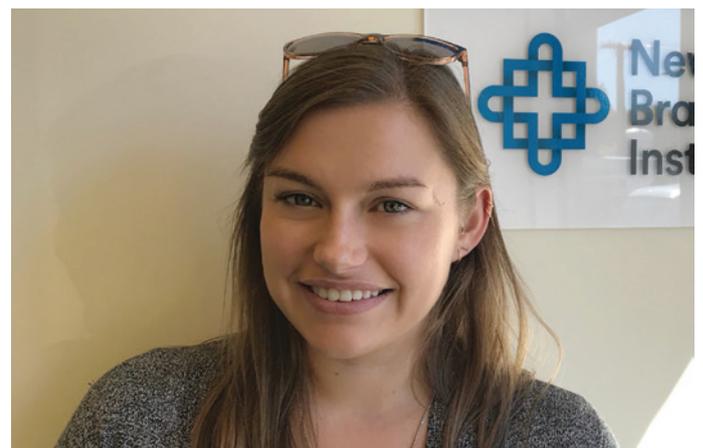
• Why are you going to the States and what do you hope to gain from it?

I have received Otago University's MacGibbon PhD travel fellowship, which allows me the opportunity to learn new techniques and methodologies available in the United States, which I can apply to my PhD research here in NZ. I will be working with Dr John Seibyl and the image quantification team at the Institute for Neurodegenerative Disorders (IND), in New Haven, Connecticut. Dr Seibyl is a world leader in the development and application of novel PET imaging tracers, and I hope to come away with up-to-date skills and knowledge that I can apply to our imminent tau PET study.

• Hopes for the future and thoughts on the NZBRI?

I'm excited to continue working at the NZBRI through my PhD study, and hope to pursue post-doctoral research either with NZBRI or as part of the wider CoRE in future.

Best of luck with your travels Megan!





Patient Story – Bob and Judith Calder

Bob and Judith met at the bank. They weren't standing in line waiting to be served though. They both worked for ANZ for many years and happily they met each other when working together. It seems they have a penchant for doing most things together, including the fact that they both now have Parkinson's disease.

Bob first noticed his condition more than 20 years ago. He was working part-time at an accountant's office when he felt he was losing energy and had also noticed that his handwriting had become very small. A visit to his local GP in Rangiora confirmed that he had both a faulty heart valve, and Parkinson's.

Bob's Parkinson's was managed by his own doctor for a year before he was referred to Prof Tim Anderson for further monitoring and it was at that time, that Bob took up the challenge of becoming a research subject, in the NZBRI Longitudinal Parkinson's project, led by Prof Anderson. He is happy that it has also given him the opportunity to take part in Prof Anderson's botox clinic (which he is quick to stress, not because he wants to look 20 years younger!)

For Judith, the discovery she had Parkinson's was a more recent event and as yet, she has not been too badly affected by it. She first noticed a tremour in her middle finger and Bob tells us she was pretty reluctant to 'have it seen to' for while. Judith tells us she didn't want to know what it was, afraid that it may also be Parkinson's and that she and Bob would have to face the fact that they both now had the condition.

However, whilst she was working at Nurse Maude, the nurses there noticed she had something going on and encouraged her to be assessed and the diagnosis was made.

At first, Judith found the news they both had Parkinson's 'pretty devastating' but they both said in our interview that you cannot change the hand you are dealt in life, you need to find a place of acceptance and 'move on'. Wise advice.

Bob and Judith now live in a retirement community in Rangiora with their lovely wee dog Fritz. They both acknowledge this was a great move for them. They had

“you cannot change the hand you are dealt in life. You need to find a place of acceptance and move on”

a big house and the decision to downsize was not easy but at the village they have made friends and have the support they need because all four of their children live overseas.

I asked Bob and Judith what advice they would give others on this journey with Parkinson's and they said 'just keep going each day and keep talking to each other as a couple – communication is important'.

They are both very happy to be taking part in the research at the NZBRI because it will benefit those faced with the same challenges in the future. They also appreciate the extra monitoring the participation gives them with their condition.

If you are interested in taking part in our research please get in touch through www.nzbri.org





Opera Meets Art - a wonderful night to remember



For the third year in a row, this sell-out event delivered on its promise to be a wonderful night of music and art. The Opera Club outdid themselves with a lovely repertoire of popular opera pieces ranging from poignant to hilarious. This was all complemented by a stunning array of original artwork kindly donated by some of Canterbury's finest visual artists. We raised \$25,000 on the night which sets a new benchmark for this event.



Our sincere thanks to:

The Friends of the Brain Research Institute (FBI), The Opera Club, Pegasus Bay Winery, Southern Eye Specialists, The Christchurch Art Gallery, Lizzie's Cuisine, Lew Summers, Philip Beadle, Lorraine Natusch, Beverley Frost, Bala Patel, Gary Tricker, John Young, Marie Le Lievre and Nina Oberg Humphries.

Correction

In the last issue of The Stimulus, we misspelled Leslie Livingston's name. We sincerely apologise for any embarrassment this caused.

Yes, I wish to support the New Zealand Brain Research Institute

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