

MS Research Australia Funding Announcement for 2014

MS Research Australia is pleased to announce \$1.537 million in new funding to begin this year. The eleven new grants to researchers around the country encompass a range of MS fields including genetics, immunology, neurobiology, myelin repair and symptom management in MS.

With major collaborative platform projects and ongoing projects from previous years, MS Research Australia's research portfolio now totals 39 active research projects.

MS Research Australia plays a vital role in increasing the capacity for MS research in Australia by supporting the career development of promising young MS researchers including encouraging young clinicians to expand their focus into research.

Among the two new Scholars and three Fellows, is Dr Heidi Beadhall who has just completed her specialist training for neurology and will now undertake a PhD at the Brain and Mind Research Institute, University of Sydney. She will investigate the use of magnetic resonance imaging to enhance disease monitoring and ultimately to guide therapeutic decision-making (to read more about this research and other new scholarships please see page 5).

New biomedical project grants will look at the functional implications of some of the genetic changes in MS and investigate the role played by molecules which control gene activity and immunity in MS. In partnership with Foundation 5 Million Plus, MS Research Australia is supporting researchers at the University



of Melbourne in two separate projects to promote myelin repair. Dr Stan Mitew will investigate whether mechanisms for myelination that occur during development can be reactivated to enhance myelin repair in MS. Dr Simon Murray, working in the laboratory of Dr Holly Cate will be deepening their work on the growth factor BDNF to investigate its potential to promote myelin regrowth in MS.

Associate Professor David Brown at the University of NSW will receive a project grant co-funded by the Trish MS Research Foundation to investigate a molecule that plays a role in regulating the innate immune cells resident in the brain. His approach holds promise for the therapy of the most difficult to treat, progressive forms of MS (you can read more about this project on page 4).

Three allied health clinical trials will test symptom management techniques for those living with MS. Dr Anna Hatton at the University of Queensland will investigate whether enhancing sensory feedback by the use of textured shoe insoles can improve gait in people with MS. Dr Phu Hoang at Neuroscience Research Australia in Sydney

has received a Fellowship to build on the important findings from his MS Research Australia project grant of 2012 in which he identified the key risk factors for falls in people with MS. He will now test whether a targeted interactive training technique can reduce the number of falls experienced by people with MS. Ms Louise Kurczycki at Monash University, having developed a screening tool to improve identification of bladder and bowel symptoms in MS, will now trial the screening tool together with a nurse-led intervention to improve management of these often life restricting symptoms for people with MS.

'We'd like to thank all of our supporters for making this investment in MS research possible,' said Dr Matthew Miles, MS Research Australia Chief Executive Officer. 'We are thrilled with the quality of applications to our 2014 funding round and have high hopes for these new research ventures. MS Research Australia is proud to be the major non-government contributor to the funding of outstanding MS research in this country.'

Please see overleaf for a snapshot of all new research funded this year. ■



Research Development Coordinator at MS Research Australia

Dr Julia Morahan has a Bachelor of Medical Science from the University of Sydney and a PhD in Neurology and Genetics undertaken at the Royal Prince Alfred Hospital in Sydney.

Following her PhD, which investigated the neurodegenerative condition Motor Neuron Disease (MND), Julia was funded by MND Australia to undertake a postdoctoral fellowship to look at genetic and environmental factors in the development of disease. In 2009, Julia switched her focus to MS and became the first recipient of a joint MS Research Australia – MS UK Fellowship, supported by the Macquarie Group Foundation, to work at the University of Oxford with Professor George Ebers. Julia joined MS Research Australia as the Research Development Coordinator upon her return to Sydney in 2012.

At MS Research Australia, with her colleagues, Julia coordinates the MS Research Australia platforms and communicates research news from the Australian and international MS community. Julia also coordinates the activities of the MS Research Australia Brain Bank based at the University of Sydney.

'I am thrilled to be part of MS Research Australia', says Julia, 'and feel that at this exciting time for MS research, the job of translating research findings for the MS community is an important one'.

'Having come from the MS research community myself, it has put me in great stead to keep track of all the progress being made and understand

where it fits in the scheme of our understanding of MS. It has also been great to remain in touch with the research community through working with the national collaborative platforms at MS Research Australia'.

'As part of my previous positions, I worked alongside the Brain Bank at the University of Sydney and also made use of brain tissue for my epigenetic studies in MND. As such, I am very aware of how important this resource is for researchers and also am continually amazed at the commitment and generosity of the family members of donors to proceed with brain donation at what is such a difficult time for them. Working with people with MS to register them for the MS Research Australia Brain Bank and growing the amount of quality research facilitated through the MS Research Brain Bank has been very rewarding.' ■



DR JULIA MORAHAN

A word from our Chief Executive Officer

Welcome to the first issue of the NEXT newsletter for 2014. This year is a very exciting year for MS Research Australia as we celebrate our ten year anniversary. MS Research Australia was incorporated as an independent national MS research initiative in early 2004.

Thank you for supporting MS Research Australia over the years and for sharing our goal of finding a cure for multiple sclerosis. We are very proud of what has been achieved over the last ten years and I am confident that with the continued research effort, we are moving significantly closer to finding a cure.

To accommodate the increasing amount of MS research news, we have changed the newsletter format to eight pages. I trust you will enjoy reading the additional articles we have been able to include. I would particularly like to draw your attention to the research snapshot we have on page three, detailing the eleven new research projects we will start funding this year.

This issue includes profiles of several of this year's grant recipients and their projects, which are all following very different and promising leads in MS research. If you would like to read further details about any of the newly funded or ongoing research projects please visit www.msra.org.au.

Lastly I would like to introduce you to Dr Julia Morahan BMedSc (USyd), PhD (USyd), our Research Development Coordinator, who is a valuable member of our dedicated team. ■

LATE BREAKING NEWS: Professor Michael Pender from the University of Queensland, who is funded by MS Research Australia, has published a paper in the *Multiple Sclerosis Journal* describing the use of a new treatment for MS that boosts immunity to Epstein-Barr Virus (EBV). The technique, known as 'adoptive immunotherapy', was tested in a single person with secondary progressive MS and the promising results suggest that it could be a useful treatment for progressive forms of MS. There are currently no approved disease-modifying treatments available for these patients. There are now plans for further patient studies to confirm the results.



RESEARCH AUSTRALIA

SNAPSHOT

PROJECTS STARTED IN 2014 FUNDED BY MS RESEARCH AUSTRALIA

IDENTIFYING THE TRIGGERS FOR MS

GENETICS & EPIDEMIOLOGY

The Florey Institute of Neuroscience and Mental Health, VIC

Professor Trevor Kilpatrick is investigating functional implications of genetic variation in a specific gene called MERTK and its role in MS susceptibility.

Hunter Medical Research Institute, NSW

Dr Vicki Maltby is profiling molecules that control gene activity in the immune cells of people with MS, to identify factors contributing to disease onset and prognosis.

Bond University, QLD

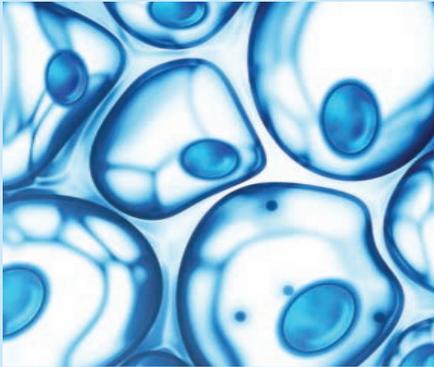
Katherine Sanders is profiling molecules that control gene activity in tissue taken from MS lesions in the brain and body fluids to develop biomarkers for MS prognosis.

DEVELOPING BETTER TREATMENTS



A CURE FOR MS VIA REPAIR OR REGENERATION OF CELLS

NEUROBIOLOGY



University of Sydney, NSW

Associate Professor Alexander Klistorner will use the MS Research Australia Ian Ballard Travel Award to visit the Hadassah Hebrew University Medical Center to participate in a joint project that will investigate demyelination in the visual system in MS.

Dr Heidi Beadhall is exploring the use of magnetic resonance imaging (MRI) to measure brain tissue loss in people with MS in clinical practice.

University of Melbourne, VIC

Dr Simon Murray is looking at novel ways to promote remyelination and repair in the MS damaged brain and spinal cord.

Dr Stanislaw Mitew is investigating the normal turnover of myelin in the healthy and MS brain and investigating ways to improve remyelination for repair.

IMMUNOLOGY & VIROLOGY



University of NSW

Associate Professor David Brown is investigating a specific molecule that can modulate the innate immune system and may provide a new treatment option for progressive MS.

SOCIAL & APPLIED RESEARCH



University of Queensland, QLD

Dr Anna Hatton is running a clinical trial to test whether wearing textured shoe insoles may increase sensory feedback to improve the gait of people with MS.

University of NSW

Dr Phu Hoang is running a clinical trial to test an interactive training system to reduce falls in people with MS.

Monash University, VIC

Louise Kurczycki has validated a screening tool to identify continence problems in people with MS and will now test whether treatment initiated by continence nurses will improve bladder and bowel problems in people with MS.



KEY

SCHOLARSHIP

FELLOWSHIP

PROJECT GRANT

Tackling progressive MS

A new 2014 MS Research Australia project grant holds particular promise for tackling the progressive forms of MS. This is an important area of research, since there are currently no treatment options for these forms of the disease.

Associate Professor David Brown at the University of NSW, has been awarded \$250,000 over three years to investigate a molecule known as MIC-1/GDF15 that appears to play a key role in regulating cells of the innate immune system.

The innate immune system is generally the 'first line' of defence against perceived threats to the body. It is also involved in longer term clean-up and repair responses to damage. The attention of many researchers has increasingly been turning to the role of the innate immune system in MS as it appears to play a significant role in the 'slow-burning' accumulation of myelin and nerve damage that occurs in progressive forms of MS.

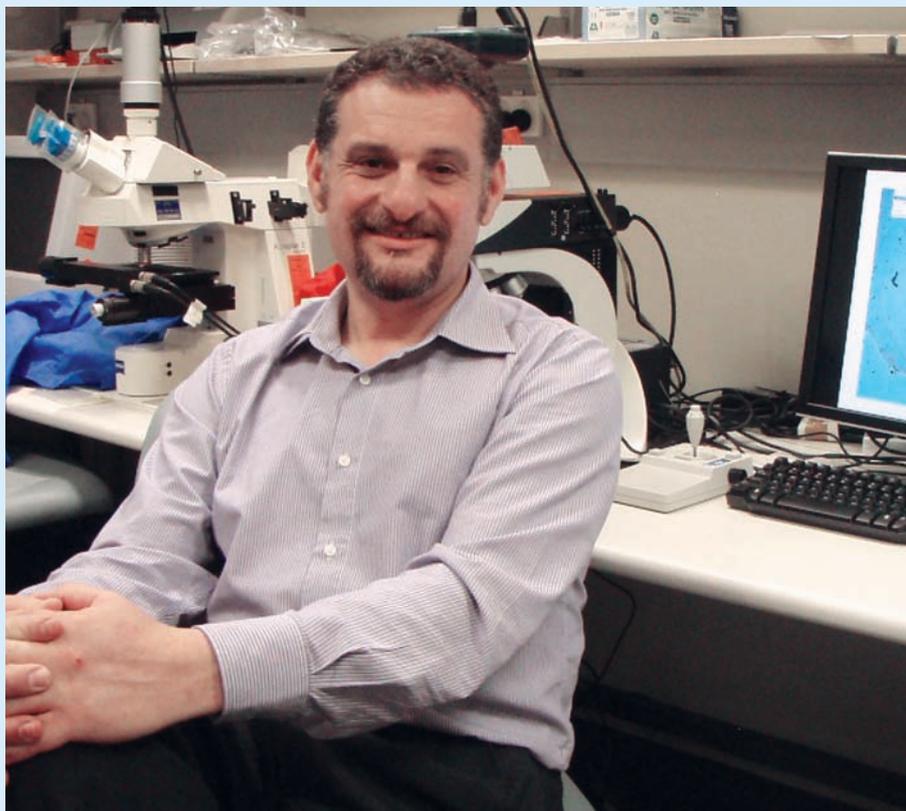
The research program discovered the MIC-1/GDF15 molecule, and as a result of this research, the molecule is now being developed internationally as a new therapy for a number of diseases

including obesity and inflammation. Preliminary evidence from his laboratory suggests that MIC-1/GDF15 also modulates the innate immune system and that it may be an effective treatment for progressive MS.

The focus of this project will be the mechanisms by which MIC-1/GDF15 regulates the cells of the innate immune system, such as dendritic cells and the microglial cells of the brain. He also aims to use laboratory models of MS to obtain evidence that MIC-1/GDF15 could be used as a therapeutic agent in autoimmune disease.

Since MIC-1/GDF15 is about to enter Phase I clinical trials for appetite suppression, much of the safety work in humans is underway. This means that if Associate Professor Brown can confirm a role for MIC-1/GDF15 in MS there will be an exciting opportunity to rapidly progress his experimental results into direct benefits for people with progressive forms of MS.

With his considerable experience with this molecule and the tools and methods already developed at the University of NSW, Associate Professor Brown is well positioned to make rapid progress on this exciting project. ■



A/PROFESSOR DAVID BROWN

Partner Profile

MS Research Australia relies on the generous support of several major donors. Their dedication to our cause has been invaluable, and we are tremendously grateful for their commitment. In recognition of this support we will profile a different partner in each edition of our newsletter, highlighting the fantastic contribution they make to MS Research Australia and the history of our relationship with them.

MS Research Australia is a Foundation grant partner of the Macquarie Group Foundation. Since our establishment in 2004, Macquarie has donated significantly towards MS Research Australia through grants towards specific MS research projects and conferences, workplace giving, matching gifts and support of our MS Angels networking group.

The MS Research Australia Patron, Simon McKeon AO, is Executive Chairman of Macquarie Group's Melbourne office and there are strong links between Macquarie and our MS Research Australia Chairman and Chief Executive Officer. Significant support for MS research from staff has occurred at many levels, from those involved in holding the MyStery Ball in Sydney, to members of the MS Angels networking group and employee events for the Kiss Goodbye to MS campaign.

Just recently, Richard Sheppard, the former Chairman of the Macquarie Group Foundation hosted a Boardroom Lunch for MS Research Australia at Macquarie's offices in Sydney, where one of Australia's leading researchers, Professor Graeme Stewart AM, described the significant progress that is being made towards a cure for MS.

The Macquarie Group Foundation has donated over \$200 million to thousands of organisations since its inception in 1985, supporting programs across health, education, the arts, welfare and the environment. It also builds and strengthens Macquarie staff involvement and engagement in community activity in the many cities around the world in which Macquarie has offices. ■



DR HEIDI BEADNALL



MS KATHERINE SANDERS

Two new scholars funded by MS Research Australia

The funding from MS Research Australia to begin in 2014 includes two new postgraduate scholarships. Dr Heidi Beadnall and Ms Katherine Sanders were both awarded funding over three years in order to undertake their PhD studies.

Dr Beadnall is already a neurologist in training at the University of Sydney and the Royal Prince Alfred Hospital and currently holds the position of MS Clinical

and Research Fellow at the Brain and Mind Research Institute. This study will investigate the use of magnetic resonance imaging (MRI) scans to track brain tissue loss in people with MS. Loss of brain tissue (or atrophy) appears to be an accurate marker of disease progression in MS, but the routine use of quantitative MRI for atrophy is not standard in clinics.

Dr Beadnall's project will determine whether brain atrophy measures over time

are useful in the clinical setting and identify and overcome barriers to the introduction of quantitative MRI into clinical practice. MRI could be used to measure the effectiveness of MS treatments, assist with prognosis and guide therapeutic decisions. This will be especially relevant to new therapies under development, which aim to promote repair mechanisms in the brain in progressive MS.

Ms Sanders will be working under the supervision of Associate Professor Lotti Tajouri at Bond University in Queensland. Working closely with experts at the Hunter Medical Research Institute, Ms Sanders will be profiling microRNAs in MS. microRNAs are molecules which are used by cells to control gene activity in different cell types. Since the genome of each cell is identical, this is one of the mechanisms by which characteristics of individual cell types are controlled.

Ms Sanders will examine microRNAs in MS lesions taken from the brain tissue of people with MS, something that has only been done in a limited capacity before. She will then determine if the microRNA profile can also be seen in circulating body fluids. This will allow her to identify potential biomarkers to diagnose and predict disease outcome in MS from non-invasive tests. ■

Longitudinal study – under new management

The long-running Australian MS Longitudinal Study (AMSLS) has been managed by Dr Rex Simmons at Canberra Hospital for over 10 years. Dr Simmons is now retiring and handing over the reins to a team at the Menzies Research Institute Tasmania led by Dr Ingrid van der Mei and Professor Bruce Taylor.

The AMSLS is a research platform funded and coordinated by MS Research Australia to investigate issues of practical importance for people with MS. Over the last decade it has provided valuable insights regarding the daily challenges of living with MS and provided data for MS Australia and the state MS societies to support advocacy and plan services.

The study consists of over 3,500 Australians with MS who have volunteered to participate in regular surveys. This

group has been shown to be highly representative of the Australian MS population, making it a powerful resource to provide evidence-based, statistically sound data on the impact of MS.

Serial employment surveys and cost diaries have provided crucial data on the reasons why people with MS experience higher levels of under-employment compared with other chronic diseases and under-pinned two reports on the Economic Impact of MS in Australia.

The National MS Needs Analysis was also conducted through the AMSLS in collaboration with Deakin University and provided vital information for advocacy and service providers.

The new team were selected after an open application process, and the internationally respected team will bring a wealth of experience and expertise to the project.



DR INGRID VAN DER MEI

'The success of this study to date is a testament to the commitment of the people with MS who take part in this research. We thank them and Dr Simmons for their hard work and we look forward to more valuable insights to come from Dr van der Mei and her team,' said Dr Matthew Miles, MS Research Australia Chief Executive Officer. For more information visit www.msra.org.au ■

A wonderful contribution to the MS Research Australia Brain Bank

Mrs Claire Luck was a person with MS, who in 2010, made the decision to pledge her brain and spinal cord to the MS Research Australia Brain Bank for research. The donation ultimately took place in October 2013 when Claire sadly passed away. Claire's incredible donation was recently profiled in The Australian newspaper. Jane Keneally, Claire's sister, commented, 'When the chance came to pledge her brain, Claire didn't hesitate. She could see that maybe one day they would find a cure for MS and that she could help.'

In 1991, Claire was diagnosed with MS at the age of 28. Claire was a resident at New Horizons Nursing Home in Sydney and in memory of Claire, the centre is planning to name a new wing of the home in her honour.

'Without the generosity of donors such as Claire, and the support of their families at the time of donation, the valuable research facilitated by the MS Research Australia Brain Bank would not be possible', commented Dr Julia Morahan, Research Development Coordinator of MS Research Australia. 'Being able to study the tissue affected by MS directly is so valuable for our insights into the process that underlies the disease'.

'As Claire's family, we were pleased that the donation to the MS Research Australia Brain Bank went so smoothly', said Jane, 'We hope that Claire's donation will be of some help with MS research'.

The MS Research Australia Brain Bank would like to thank Claire and her family, especially Jane Keneally and son Jinah Luck, for their assistance during the donation process. We are very grateful for their support.

If you wish to register as a brain and tissue donor please phone **1300 672 265**, email msrabrainbank@msra.org.au or register online at www.msbrainbank.org.au to receive your consent pack. ■



To register as a brain donor
 Phone: 1300 672 265
 Visit: www.msbrainbank.org.au
 Email: msrabrainbank@msra.org.au

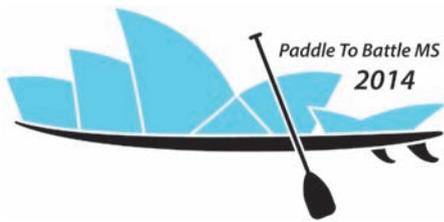
It is invaluable for researchers to study the brain and spinal cord tissue from people with different MS subtypes and disease stages to find out how and why demyelination occurs and how to develop ways of repairing and preventing tissue damage.

Donating your brain to the MS Research Australia Brain Bank after your death will:

- help researchers find diagnostic markers for early detection
- help researchers develop better treatments
- help researchers discover possible cures and prevention measures for MS

The MS Research Australia Brain Bank was established in 2008 in response to the limited availability of high quality human brain tissue affected with MS. Since this time we have received over 40 extremely valuable donations of brain and spinal cord tissue and over 770 people with MS have pledged their brains for research.

To register as a brain donor or to receive further information please phone **1300 672 265**, email msrabrainbank@msra.org.au or register online at www.msbrainbank.org.au



Paddle to Battle MS 2014

Stand up paddle boarding has become quite popular around the world in recent years. Fionna Guy and Stephen Hill, both active paddle boarders and supporters of F5m+ and MS Research, joined forces and developed the event; 'Paddle to Battle MS'.

Fionna and Stephen wanted to make a difference and after the launch of the event last year, which raised over \$28,000, they are committed to making this an annual event. Support from the stand up paddle board community, the Collaroy Surf Life Saving Branch, Naish and Sydney Paddle Surf Club (SPSC) is overwhelming and 'Paddle to Battle MS' has been tagged as a "must attend" event for 2014.

'Paddle to Battle MS' 2014 is a technical event and involves competitors from around Australia, paddling around a set course marked by buoys in and out of the surf.

The event will be held on **Saturday 15 March** at Collaroy Beach and is an event not to be missed. For further information visit www.paddletobattlems.com.au ■

The Power of the community

At F5m+ we appreciate the continuing support from individuals, community groups and companies across Australia that are dedicated to raising much needed funds for MS research and putting FUN into FUNdraising.

The Leongatha MS Auxillary recently held a music night at the their village hall, with 170 people dancing to the music performed by Marie Wilson from Gigs4Good. With ticket sales, raffles, an auction and donations, the event raised over \$9,000. Thank you to **Vicki Poxon** and **Nat Challis** for their amazing effort in putting this event together and giving the generous community of Leongatha a chance to party for a purpose.

Not everyone who fundraises for MS research does so by holding events, some spread the word about our mission to fund research and others participate in a myriad of organised events which are held nationally and enable fundraising for your charity of choice. Just like personal trainer, **Linda Moxham** who is running the iconic Great Ocean Road marathon on 18 May. Linda's inspiration stems from her close friend's mother, **Di Chalker**, whose attitude towards MS is so positive.

To find out how you can help generate valuable funds or what events you can participate in, please contact info@f5m.org.au or visit www.f5mplus.org.au ■

Upcoming Events

For more details on community fundraising events contact the Community fundraising team, on 1300 356 467. Details can also be found at www.f5mplus.org.au and www.kissgoodbyetoms.org

15 March	Paddle to Battle MS	Collaroy, NSW
23 March	Kiama Autumn Fest	Kiama, NSW
5 April	The Stampede	Adelaide
12 – 13 April	Australian Running Festival	Canberra
1 – 31 May	Kiss Goodbye to MS campaign	Nationwide
1 – 11 May	Kiss Goodbye to MS Bunnings BBQ's	Nationwide
18 May	Sydney Half Marathon	Sydney
18 May	The Great Ocean Road Marathon	Victoria
5 – 6 July	Gold Coast Marathon	Gold Coast
27 July	Run Melbourne	Melbourne
10 August	City To Surf	Sydney
30 August	Coast2Coast MS Walk	UK

ELLYSE PERRY REPRESENTS AUSTRALIA IN BOTH SOCCER AND CRICKET.



What are you going to do to Kiss Goodbye to MS?

It is exciting to know that research towards a cure for MS is progressing so well. This means that now more than ever, we need your help to wear RED and fundraise for research so we can once and for all Kiss Goodbye to MS!

We are delighted to have several fantastic ambassadors who represent Kiss Goodbye to MS in the media. In 2014, we welcome inspiring sports star Ellyse Perry. Ellyse was recently voted Australia's most marketable sports star and is amongst the top 50 in the world. She says, 'Everyone deserves a chance to live their life to the full. That's why I want to Kiss Goodbye to MS!' Ellyse will help bring greater awareness of MS in Australia and beyond.

Join Ellyse and other Aussies around Australia this May and get involved! WEAR red lipstick (or anything red!) and get sponsored to do so. While you're wearing red, DARE yourself to do something outrageous! Fun runs, skydiving – get creative! Or, SHARE the word on Facebook or join in our Instagram competition, A Photo Every Day in May. You could also share by hosting a Kiss Goodbye to MS event!



Bunnings BBQs – can you help?

Bunnings have chosen to help us Kiss Goodbye to MS this Mother's Day weekend by inviting one and all to hold a BBQ at your local Bunnings store! Last year, over \$70,000 was raised, and we want to beat that this year. Can you help us?

If you would like to run a Kiss Goodbye to MS Bunnings BBQ or cake stall, get in touch with your local Bunnings' store Activities Coordinator to book a date, or for more information go to www.kissgoodbyetoms.org/events ■

We would love to hear your ideas, or for some inspiration, go to our website to see what others are already doing.

For more information, or to register as a fundraiser go to www.kissgoodbyetoms.org or call us on 1300 785 717. ■

Help us find a cure for MS

Donate (Donations over \$2 are tax deductible)

To support MS Research Australia's vital work I would like to:

- Learn more about leaving a bequest in my will
- I have already made a bequest to MS Research Australia in my Will
- Make a monthly donation of : \$
- Make a one off donation of: \$

Contact details

Title: First name:

Surname:

Address:

Suburb: State: Postcode:

Phone: Mobile:

Email:

Thank you for supporting MS Research Australia with your generous donation.

Please return by post to:
PO Box 625, North Sydney NSW 2059

You can also donate online at:
www.msra.org.au

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Cheque (made payable to MS Research Australia)

Please debit my Mastercard Visa Amex

Credit card number:

Exp: CVV:

Name on card:

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