



## Quarterly Newsletter Of Autism Research - March 2017

### Welcome

Welcome to the first newsletter of 2017. Already the first quarter of the year seems to have slipped by. This year, we're hoping to communicate with you on a quarterly basis and we'd also like to invite you all to share your stories, experiences, ideas and successes with the community.

### From The Chairperson

I'm very pleased to announce that the Trust has granted \$6,000 to the research being undertaken by Dr Mike Taylor & Dr Joanne Montgomery into gut bacteria and autism using a mouse model. The Trust has some exciting things planned for this year including grant submissions, information evenings, and other exciting fundraising activities. If anyone is keen to help we'd love to hear from you.



Josephine Wallis  
Minds For Minds  
Chairperson

### Microbiome Research In A Mouse Model Of Autism

Two of our research team, Assoc. Professors Mike Taylor, and Johanna Montgomery and MSc student Giselle Wong are working on research using a mouse model for gut microbiome with a specific focus on the interaction between gut bacteria and dietary zinc treatment.

Animal (especially mouse) models are widely used for the study of human-related conditions, including autism. By imitating the symptoms of autism in mice, they can then test certain hypotheses around what leads to autism in the first place, as well as evaluating potential therapies that may one day improve the gut problems commonly encountered by people on the autism spectrum.



Thanks to recent funding support from the Minds for Minds Trust, they are now extending their research looking at the effects of a dietary mineral supplement on gut health and autism-like behaviours (such as impaired communication) in a mouse model.

Specifically, they are examining the role of gut bacteria (the “microbiome”) in affecting how the dietary changes influence autism behaviours. The mouse model was developed by the Montgomery lab and involves a gene mutation, which affects how nerve cells interact with each other in the brain. Preliminary results are exciting and they look forward to providing further updates as they develop.

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## Speaking Circuit

A busy start to 2017; we’ve already had a number of requests come in for our team to speak to various groups. Neurologist Dr Ros Hill spoke to the teaching staff at the Wilson School in Takapuna on their teacher-only day at the end of January; the school caters for wide range children with disabilities and special learning needs. And on Wednesday 7, June Dr Hill will be speaking to the Takapuna branch of U3A (University of the Third Age) on “Understanding the puzzle of autism” at 11am at the Northcote Citizens Hall.

Remember if you would like any one of our scientific team to speak to your group or conference about Minds for Minds and its research, please email us at [info@mindsforminds.org.nz](mailto:info@mindsforminds.org.nz)

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## Upcoming Event

We would like to invite all those registered for the Minds for Minds research and anyone else interested, to join us for an evening where the scientists and medical team members will update us all on their research. It is also an opportunity for you to meet them, chat with them and ask them the questions you’ve might have been wanting to ask.

Wednesday 24 May has been set aside for this event so lock that into your calendars now. The event will be in the evening between 7.30pm – 9.00pm and the venue will be confirmed closer to the time. We welcome you all there and look forward to having you join us.

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## Brain Day 2017

A free public event was held on Saturday 25 March at the University of Auckland Business School to mark Brain Day 2017 as part of international Brain Awareness Week.

Hundreds of people turned up over the course of this day to listen to public lectures about brain research findings, involve themselves in workshops, and meet community groups working in the neuroscience space.



Credit: Neurological foundation of New Zealand  
Left: Georgina Couch, Middle: Dr Jessie & Marty Jacobson, Right: Sue Giddens

Minds for Minds were on the ground engaging with interested members of the public to explain the principles behind the research and how they could become involved.

Co-founder of Minds for Minds, Professor Russell Snell spoke with Kim Hill earlier in the day on RNZs Saturday Morning programme about the research; you can listen to his interview here:

[www.radionz.co.nz/national/programmes/saturday](http://www.radionz.co.nz/national/programmes/saturday)

And if you haven’t been to a Brain Day event in the past, look out for it next year and get along; spend a couple of hours in this fascinating and absorbing environment.

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## Update From Professor Russell Snell

### PhD Success:

But first, something to celebrate; our first Minds for Minds PhD student Brendan submitted his thesis for examination on 1 March. During his PhD studies Brendan has contributed to building Minds For Minds, helping out with our fundraising and preparing the information sheets for the sample collection.



Professor Russell Snell  
Geneticist, University of  
Auckland School of  
Biological Sciences

Brendan's research work involved the development of a DNA sequence analysis process to find variations and sort through the sequence to find causative variants. He contributed to the discovery of variants for 6 families that have been returned to the families after re-testing in a clinically certified laboratory. Being able to contribute information to the families is an exciting and satisfying part of our study.

The next step in the process for Brendan; his thesis will be marked by New Zealand and international examiners; this will be followed by an oral examination in 2-3 months. In the meantime he's going to have some well-deserved sleep and then return to us for a while to write up two cases for publication in international journals.

### Research Update:

We were very excited to see the publication of our paper describing the demographics of the Minds For Minds participants in the Journal "Research in Autism Spectrum Disorders".

This paper was referred to in the previous newsletter in more detail but here is an abridged version.

Late last year, Minds for Minds research was published in the Elsevier Journal, a world leading provider of information to the science, health and technology professions [www.elsevier.com/about](http://www.elsevier.com/about)

Here our researchers reported on the population demographics and co-morbid conditions of the individuals who have signed up for the Minds for Minds research.



What they found was a well-reported gender bias of 4:1 males:females present in the study, along with an ethnicity structure reflecting that seen in the most recent census. This means the study population accurately represents the population of New Zealand with ASD. ADHD, dyspraxia, depression and anxiety were the most common additional conditions for all age groups, with ADHD being more common for children aged up to seven years and depression and anxiety being the most common for both the 8-17 age group and adults (17+). These conditions, especially ASD, depression and anxiety were also extremely common in first-degree relatives. These findings were again consistent with previous reports in the literature.

The link below will take you to a summary of the work:

[www.sciencedirect.com/science/article/pii/S1750946716301660](http://www.sciencedirect.com/science/article/pii/S1750946716301660)

If you would like to read the full article, please email Javier Virues-Ortega from the Applied Behaviour Analysis Programme- University of Auckland". The importance of this publication extends beyond the research finding to making a clear statement through a peer reviewed legitimate channel to the international community that we have our act

together down here in New Zealand. This will be used to legitimize future research grant applications.

### Research Funds:

Lastly we are still desperate for research funds. Over the last few years we have established Minds for Minds and successfully engaged with the community and clinicians.



We are now in a position where we don't have to talk about when and if we can sequence and interpret genomes delivering important results for individual families and the wider ASD community. Our discovery rate is at the level of the best research labs in the world.

We are extremely grateful to the families who have signed up for our work and have donated their DNA samples.

This work would not be possible without your close participation and generous contribution.

We are also grateful to the people who have funded our work to this stage. Yes we are flying on a wing and a prayer and a lot of good will from the community.

We just need more funding to push on and make a substantial difference.

If you are able to contribute or assist us in any way, please do contact us on [info@mindsforminds.org.nz](mailto:info@mindsforminds.org.nz)

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## Register For Research

The call goes out again; if you have a member of your family on the autism spectrum and you would like to register for the research, please go to our website [www.mindsforminds.org.nz](http://www.mindsforminds.org.nz). We are also keen to have parents and siblings registered who may not be on the spectrum to be part of a control group.



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## Dr Jessie Jacobson

Each newsletter we profile a member of the scientific team. This quarter we're introducing you to Dr Jessie Jacobson. She's blond, she's bubbly and she's bright! She's a top achiever and one of the geneticists working on the Minds for Minds research.



**Dr Jessie Jacobsen**  
Geneticist, University of  
Auckland School of  
Biological Sciences

A collector of awards Jessie was the:

- 2007 MacDiarmid Young Scientist of the Year
- 2008 Neurological Foundation of NZ Philip Wrightson Postdoctoral Fellow (allowed her to study at the Center for Human Genetic Research at Massachusetts General Hospital and Harvard Medical School)
- 2010 Distinguished Alumni Award at Auckland University
- 2012 Rutherford Discovery Fellow
- 2012 Neurological Foundation of NZ Repatriation Fellow (to begin research into ASD in NZ population)

While in the United States, Jessie initially focused on the genetics involved in Huntington's Disease but developed an interest in more complex genetic disorders particularly Autism Spectrum Disorder. And we're very glad she did because after three years, she returned home in 2012 to head up the Minds for Minds genetic research programme into autism.



Jessie is passionate about her research, which contributes to the international effort to genetically define the condition. She's excited that the findings of the study will contribute to therapeutics and more specific health, social and educational support systems for individuals and family members in New Zealand.

In the meantime, Jessie has taken a short time out of research to spend time with her new son Marty now four months old. Jessie will be back in the lab in June 2017.



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## Minds For Minds T-Shirts For Sale

Ken Griffen is a young New Zealand artist, based in New York and has had sold exhibitions locally.



He has created an exclusive image for Minds for Minds for a limited edition of signed T-shirts to raise funds for the autism research project. Ken was originally Creative Director for Huffer Brand. As one commentator said of his art "I have not been to an exhibition or come across a new artist that has made me this excited in a very long time." [www.kengriffen.com](http://www.kengriffen.com) to see his works.

**There are only 250 T-shirts made; there are still some available with his signature on the sleeve.**

All T-shirts are \$50. Colours: black on white and white on black. There are a number of sizes in mens, women's and youth/kids.

All proceeds go direct to the Minds for Minds autism research project.

**To order click here:**

[www.mindsforminds.org.nz/shop](http://www.mindsforminds.org.nz/shop)

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