BRAINWAVE

Schizophrenia Research Institute Volunteers

SCHIZOPHRENIA RESEARCH INSTITUTE

2009

Thank You to All Our Volunteers

From Prof. Vaughan Carr, CEO

The aim of the Schizophrenia Research Institute is to find the ways to prevent and cure schizophrenia. This may seem a lofty goal, but it is one that the scientists and clinicians involved with the Institute are dedicated to, and one that we hope is achievable in the future.

Of course, this goal is only achievable with the generous contributions made by our research volunteers. So whether you are part of the Australian Schizophrenia Research Bank (ASRB), the Schizophrenia Research Register or the Gift of Hope Brain Donor Program, thank you for your invaluable contribution to our research.

We have come a long way in the past year and are excited about the future for these facilities, particularly the opening of the ASRB for research access.

If you know of anyone who may like to volunteer for any of the Institute's research programs, please tell them what we are trying to do and how they can contact us.

Australia's Largest Brain Research Project

The Australian Schizophrenia Research Bank (ASRB) has gained significant momentum in the past year and achieved a number of major milestones. The aim of the ASRB is to initially recruit 2,000 people with schizophrenia and 2,000 healthy controls, and to obtain brain scans, blood samples and clinical information, which will be compiled and cross-referenced into a unique national database of enormous value to Australian and international researchers.

Recruitment

Following the overwhelming response to the initial recruitment campaign, volunteer assessment is now well underway. Over 1,200 people have consented to join the ASRB, more than 700 have completed the assessment program, and volunteer recruitment is ongoing. Many thanks to all who have taken part thus far – without your generous support, this exciting project would not be possible.

The core ASRB investigators (L-R): Prof. Ulli Schall, Kathryn McCabe, Prof. Bryan Mowry, Prof. Frans Henskens, Dr Carmel Loughland, Prof. Stan Catts, Prof. Vaughan Carr, Prof. Chris Pantelis, Prof. Rodney Scott, Prof. Pat Michie and Prof. Assen Jablensky.

The ASRB Clinical Assessment Officers have commenced assessments from major centres outside the capital cities where there are clusters of volunteers. Unfortunately, it is unlikely that we will be able to assess those in some of the more remote rural or regional areas at this stage, due to logistical difficulties and resource limitations. However, if you are ever travelling to Brisbane, Sydney, Newcastle, Melbourne or Perth and would like to participate at this time, this can be arranged.

L-R: Danielle Lowe, Sandra Diminic and Anna Stiller, Sarah Gale

New ASRB Faces

The ASRB has been extremely fortunate to have received further funding from the Sylvia and Charles Viertel Foundation to employ a second Clinical Assessment Officer in Brisbane. New faces that volunteers will meet when joining the ASRB are Anna Stiller and Sandra Diminic at the ASRB's Brisbane site, Danielle Lowe in Perth and Sarah Gale in Melbourne.

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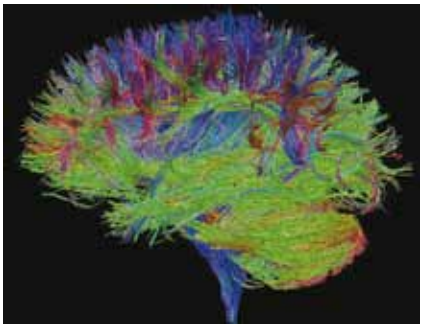

The major fibre tracts of the brain: DTI output from an ASRB control participant

Focus on Imaging

One successful strategy for investigating the origins of schizophrenia is to look at unusual perceptions and beliefs experienced in the general population, known as schizotypy. This approach assumes that these experiences and beliefs exist along a continuum to psychosis.

Using data acquired for the ASRB, Dr Marc Seal and researchers from the Melbourne Neuropsychiatry Centre explored whether disturbance in white matter tracts in the brain previously associated with schizophrenia would be related to schizotypal features in healthy adults. Brain imaging data was examined from 21 ASRB control participants and a series of significant relationships between abnormalities in major white matter tracts and increased schizotypy traits in the control participants were observed.

These findings are new and exciting since they are consistent with research relating abnormal brain connectivity and the positive symptoms of schizophrenia, suggesting that the neurobiological bases of schizotypal personality in healthy controls may be similar to the neurobiological bases of schizophrenia spectrum disorders.

Focus on Remediation

Difficulties recognising facial expressions of emotion in schizophrenia have a negative impact on everyday social and vocational functioning. Investigation of the mechanisms underlying these impairments have been undertaken by SRI researchers over several years, using the Schizophrenia Research Register, showing that facial emotion processing deficits in schizophrenia are associated with visual scan path aberrations - specifically the tendency to avoid looking at facial features (such as eyes and mouth) which provide

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Researcher Access of the ASRB

With the increased momentum of the ASRB in the past year, the ASRB Governance Committee has approved opening ASRB access to researchers on the following timeline:

June 2009:	**ASRB Chief Investigators**
July 2010:	**All other Australian researchers**
July 2011:	**International researchers and commercial entities**

This timeline was decided on the basis that sufficient data needed to be obtained before the facility was opened to external researchers, that Australian researchers were given preference ahead of international/commercial researchers and that initial examination of this data by ASRB Chief Investigators will provide the opportunity for further quality control and data clean-up, thus improving the quality of the dataset before it is opened for general access.

In the past two months the first group of studies were approved by the ASRB Access Committee. These include a wide range of projects across Australia looking at the mechanisms underlying auditory hallucinations in schizophrenia (WA), the sensitivity to unique odours in schizophrenia (VIC) and three studies examining the genetics of schizophrenia (NSW & WA).

We look forward to sharing results from these projects with you in the future.

ASRB Chosen as First Intersect Project

Intersect is a newly established E-research organisation based in NSW, supported by the NSW Government and a number of universities, which is working to advance the uptake of communication and information technology into research practice in NSW.

In addition to its standard commissioned projects, Intersect has also initiated a competitive process for providing pro bono support for selected projects.

The ASRB was extremely fortunate to be the first project chosen by Intersect, who have now commenced a complete overhaul of the ASRB database to create a high quality, commercial-grade facility, which will form the cornerstone of the ASRB for the future.

The in-kind support the ASRB is receiving from Intersect is estimated to be worth more than $600,000 and includes a team of five software developers, a project manager, and a human-computer interface expert, all working on the project for a six month period.

Intersect expects the ASRB database to be completed and delivered by September 2009.

New ASRB Web Site

A brand new web site for the ASRB is currently being developed and will provide a much greater level of information for volunteers and researchers involved in the project, as well as the general public. The new ASRB web site will be linked to the SRI web site so keep your eyes on www.schizophreniaresearch.org.au in the coming months.

The Register Joins the ASRB

The Schizophrenia Research Register was one of the first projects initiated by the Schizophrenia Research Institute back in 1998. In its 10+ years of existence, the Register has made a significant contribution to schizophrenia research in NSW, supporting close to 100 schizophrenia research projects across the state.

Given the initiation of ASRB, and its capacity to support research across Australia, over the past year we have been working to incorporate the Register within the ASRB and this process is close to completion. The process of contacting all current Register members and asking them to allow their details to be transferred to the ASRB is almost complete and all new ASRB volunteers are asked whether they would consider being contacted for future research projects. This is not a condition of joining the ASRB, merely an option offered to volunteers, that we are hopeful is taken up.

This means that in addition to providing samples and data, the ASRB can now offer a further resource to assist with recruitment for specific schizophrenia research projects. It has been wonderful to see the enthusiasm that our volunteer participants show in supporting schizophrenia research, and we aim to maintain a valuable and up-to-date medical research resource.

important information required for accurate recognition of facial expressions.

Scanpath differences betyween a schizophrenia subject (left) and a control (right) when viewing a face image.

Our recent efforts to remediate facial emotion perception deficits in schizophrenia have shown promise, as shown in a recent study by SRI researchers from the University of NSW and Macquarie University. This study showed for the first time that it is possible to train schizophrenia patients to re-direct visual attention to key elements of facial features in order to improve facial emotion recognition. This is an exciting development that has the potential to improve the quality of life for people who suffer from schizophrenia.

Current Projects Recruiting from the ASRB

If you would like to participate in any of these studies, please contact the ASRB office to find out if you are eligible.

- **Assuming an intention to communicate: using auditory stimuli to test Theory of Mind**
  This study, at the University of Newcastle, is examining the Theory of Mind (ToM) in schizophrenia, which refers to our capacity to develop an awareness of our self as different to another, and to others as being different to each other as well.
- **Cognitive and neural mechanisms of emotion regulation**
  This study, being conducted at the University of NSW examines how particular cognitive strategies for regulating emotions may be impaired in schizophrenia and bipolar disorder, including the contribution of neuropsychological and social-cognitive dysfunction associated with these disorders.
- **Coping with negative affect in schizophrenia: the role of emotion regulation**
  A further study at the University of NSW is the first to directly assess the capacity to regulate negative emotions in individuals diagnosed with schizophrenia.
- **Cortical contributions to category learning in patients with schizophrenia**
  This study, at Prince of Wales Medical Research Institute, aims to examine how different brain areas contribute to learning in schizophrenia and also to evaluate a therapeutic intervention strategy.
- **Development of an assessment for screening adult language impairments in schizophrenia**
  Macquarie University researchers are aiming to develop a communication checklist that can be used to screen adults with potential language impairments.
- **Early electrophysiological markers of schizophrenia in young infants**
  This study, being conducted at Swinburne University of Technology aims to examine if atypical patterns of brain activity observed in adults with schizophrenia would also be evident in high-risk babies (i.e. babies who have a biological parent with schizophrenia).
- **Exploring the meaning of resilience in the journey with schizophrenia**
  This study, at the University of Wollongong, will conduct interviews with schizophrenia patients to explore their understanding of the word resilience and also to identify factors important to them living successfully with the illness.
- **Olfactory hallucinations in schizophrenia: a neuropsychological investigation**
  This study at Macquarie University is examining hallucinations which are involuntary perceptions that occur despite the lack of external stimuli and are characteristic symptoms of schizophrenia.

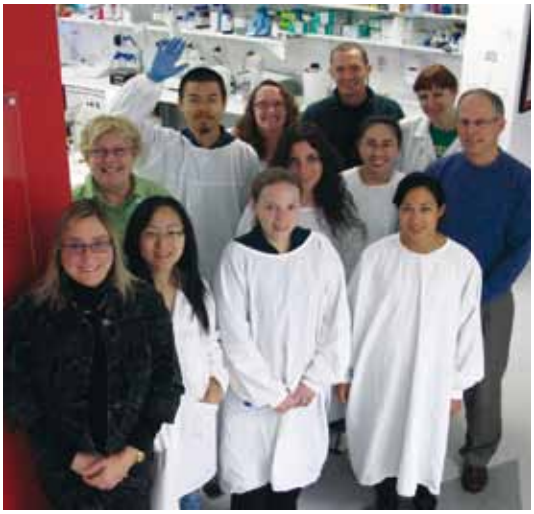
Gift of Hope Brain Donor Program

The Gift of Hope is the only Australian brain donor program dedicated to schizophrenia research. Post mortem human brain tissue is an extremely valuable resource for neurobiological research and by donating brain tissue at death, our volunteers are providing an essential resource to researchers in the fight against schizophrenia. The extra value of the Gift of Hope program is that by providing clinical and neuropsychological information together with brain tissue, Gift of Hope donors are providing crucial data to establish possible factors or links in behaviour, lifestyle and genetics.

The Gift of Hope program has seen a recent increase in brain collections and would like to thank the families of these donors for their generous and valuable contribution to helping us search for ways to prevent and cure schizophrenia.

We apologise for delays experienced in contacting some donors in the past year. The Institute has been overwhelmed with interest in the ASRB, but we are making some modifications to the manner in which the Gift of Hope program operates, which will help us to ensure all donors are enrolled and assessed as quickly as possible.

Given the ongoing nature of this program it is essential that donors keep us up to date with any changes to their personal details and also ensure that someone is aware of their wish to donate their brain to our program at the time of death. Thank you again to everyone involved in our program for your continued participation and support.



Professor Cyndi Shannon Weickert and her team at the Schizophrenia Research Laboratory

Focus on Human Brain Research

Led by Prof. Cyndi Shannon Weickert, the Institute's Developmental Neurobiology Panel has initiated an extremely large program of research focusing on the Neuregulin-1 gene, which has been associated with schizophrenia in a variety of ethnic populations, and is considered one of the most promising schizophrenia susceptibility genes.

The Panel is examining post-mortem brain tissue from 37 schizophrenia patients and 37 matched controls from the NSW Tissue Resource Centre. Whilst most research of this sort is conducted by individual groups in individual centres, this program under the leadership of Prof. Cyndi Shannon Weickert, involves five SRI research centres conducting 25 individual projects investigating a variety of features including gene and protein expression, and neurotransmitter receptor expression and binding.

The results from these various studies will then be collected and collated, with this multifaceted investigation allowing a more in-depth analysis of this complicated gene system.

Julia Stevens

NSW Tissue Resource Centre

The NSW Tissue Resource Centre is the main storage facility for the valuable brain tissue that is collected through the Gift of Hope program. We recently welcomed Julia Stevens as the new TRC Coordinator. Julia has a Bachelor of Biotechnology (Honours) and previously held positions involving DNA banking and genetics. We are sure she will be a major contributor to the continued success of our team.

VOLUNTEER SPOTLIGHT

Many of you would have read about Kathleen Smith in the most recent issue of the Institute's newsletter Headlines. Kathleen was diagnosed with schizophrenia in April last year. Luckily her treatment has worked well, and after researching the disease on the Institute's web site, she decided to join the Australian Schizophrenia Research Bank.

Being part of the research was important to Kathleen. "Research conducted now will bring better treatments in the future for me, and even the children I'd like to have", she said. As well as helping with our research, Kathleen took her support one step further and raised over $840 for the Institute via her participation in the 2009 City2Surf. "I did it for everyone who suffers from this illness. I know what it's like because I've lived it too, and I feel that because I am lucky enough to function so well, this gives me a chance to make a difference....and the idea of walking for a purpose - to raise money for schizophrenia research - seemed like a very exciting thing to do." The Institute thanks Kathleen for her wonderful support.

Contact Details

If you have any questions about our research programs, or have changed your contact details, please contact the respective programs as follows.

Australian Schizophrenia Research Bank
Michelle Poole or Janette Howell. Email: asrb@schizophreniaresearch.org.au
Telephone: 1800 639 295

'Gift of Hope' Brain Donor Program
Juliette Gillies. Email: braindonors@schizophreniaresearch.org.au
Telephone: (02) 9351 2410

Please let us know your preferences by completing and returning this Response Slip via email, fax or post:

Your Name: _____ Email: _____

Address: _____

- ☐ I would prefer to receive BrainWave in PDF format by email
- ☐ I would also like to receive HeadLines - SRI's free newsletter - by mail
- ☐ I no longer wish to receive BrainWave or further correspondence from SRI

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