



HEADLINES

Shining a Light on Schizophrenia



OCTOBER 2009

Significant steps in understanding of genetics

microRNA specialist, Dr Murray Cairns, from the Institute's centre at the University of Newcastle, has made great steps of discovery in the molecular biology of schizophrenia by finding further evidence that miRNA could be involved in the development of the disorder.

miRNAs are exceptionally small pieces of RNA derived from non-coding genetic material. Their only function is to control the activity of other genes. Despite their size, these small molecules have a powerful influence, with a single microRNA having the capacity to subtly affect thousands of genes. They are very important in the development of the brain and are also involved in neural function and plasticity, which underpins the brain's ability to learn and adapt to challenges.

In a recent study published in *Molecular Psychiatry*, Dr Cairns discovered widespread changes in microRNA production and expression throughout several regions of brains of people with schizophrenia. These dramatically elevated levels of miRNA would regulate the expression of many genes implicated in the illness. The magnitude of miRNA changes and their wide sphere of influence is another important step towards understanding the basis of a pathological influence in the development of schizophrenia.

The evidence supports the idea that schizophrenia could occur because of change in the regulation of many genes rather than specific gene mutations. Importantly, microRNA could be novel targets for drug development.



Dr Murray Cairns

Institute offers new service to the community

Professor Vaughan Carr had a vision to create a one stop shop for all information on schizophrenia for researchers, clinicians, government and the general public. His vision will soon become a reality and a world first in March 2010 when the Institute will launch the Schizophrenia Library.

With support from NSW Health, this service to the community will be a free encyclopedia on all things to do with schizophrenia.

"We have a real need to collate and store information, to have it openly accessible for researchers, clinicians, policy makers, people affected by this disease and the general public," said Professor Carr.

The library examines existing published reviews of information sourced from existing medical databases and all evidence is assessed and graded. There will be a number of different categories, including treatment, risk factors, course and outcome, central nervous system anomalies, signs and symptoms, diagnosis, co morbid conditions, families and a population perspective.



Bank prepares for opening doors

The Australian Schizophrenia Research Bank, the largest brain research project in schizophrenia in Australia is building momentum with plans to open the doors to Australian researchers in July 2010 and allow access to DNA, clinical data and brain scan results. However, not only will researchers have this new data to work with, they can also apply to access volunteers for other schizophrenia research studies. Based on the successful Schizophrenia Research Register, which has operated in NSW for over ten years, research volunteers can express interest in participating in future research when they join the Bank.

The Bank will be a highly valuable resource for all Australian researchers and will ensure that we gain further important information about the development of this disease.



CEO's report

Prof. Vaughan Carr
Chief Executive Officer

It is a great pleasure to announce that the Schizophrenia Research Institute will be hosting the Australasian Schizophrenia Conference 2010, which will be held at the Sheraton on the Park Hotel in Sydney in September next year.

The conference theme will be 'Molecules to Mind', which reflects the broad perspective required to achieve a greater scientific understanding of schizophrenia, understanding that will make a tangible difference in the lives of people with this illness.

While there has been an explosive increase in knowledge about schizophrenia and its treatment, growth in genuine understanding of the disorder has proceeded by small increments at a painfully slow pace. This is precisely why this conference is so important. Not discouraged by the complexities involved in schizophrenia, we are all excited by the broad range of scientific enquiry being brought to bear on this illness, stimulated by the task of integrating the diverse range of information to form a coherent understanding of the nature of the illness and how it develops, and challenged by the search for better means of treatment and prevention. Excited, stimulated, challenged – but not daunted.

We are expecting over 300 psychiatrists, medical practitioners, psychologists, research scientists, clinical educators, nurses and other mental health workers to attend ASC2010.

We will also be hosting a special panel discussion event for the general public to launch the conference on Tuesday 21st September 2010. I hope that you can join me in a spirit of optimism and open-minded curiosity, in the search for understanding of schizophrenia and how better to relieve the suffering it causes.

Farewell to Alan

Professor Vaughan Carr and everyone at the Institute pay a fond farewell with deepest gratitude to Alan Tunbridge as he retires this month after dedicating the last 15 years to developing awareness for schizophrenia research. Below, Alan reflects on the earliest beginnings of the Institute.



Prof. Stan Catts and Alan Tunbridge

A Spirit of Outrage

In 1994 I happened to be walking past the TV in my living room at the moment when the NSW Labor Party's Health Minister Andrew Refshauge appeared on screen with Dr Stan Catts to pledge funding for a schizophrenia research institute.

Although a mere 20 seconds, it was an auspicious moment for me because my family had been coping with a son with schizophrenia for about 4 years, and it was the first time I had seen the illness mentioned on the TV news.

In those days schizophrenia was the 'invisible illness' - no one admitted to having it, nor to having a relative who had it. This public stigma and the inadequate treatment my son had received evoked a spirit of outrage in me.

I tracked down Dr. Catts at the Prince of Wales Hospital to offer him my professional help as a copywriter/art director. I met the existing small band of scientists and parents who had already managed to bring the imagined institute so far into reality that it had won a funding pledge from the NSW shadow cabinet.

In those days we were rather like a terrorist cell, meeting at night in a variety of places to plot our next move. My modest contribution was to write and publish the 'HeadLines' newsletter – whose first few editions were filled with 'news' and diagrams of what we would do when we got some money.

The Institute stepped fully into reality in 1996 – to steadily blossom into the internationally recognised Australian research centre it is today. Well, our progress was actually more like a series of explosions than a peaceful blossoming, but we still got here, and I'm still happy that I walked past that TV screen and saw Stan Catts back in 1994.

I would like to thank Stan and all the other scientists who are devoting their careers to stopping this horrible illness called schizophrenia. It's been a privilege to help them.



Dr Jenny Wong

Cocktails & Consciousness Awards High Achievers

The Institute's annual event to thank our supporters was held at Doltone House, Pyrmont, Sydney on 24th September. Professor Vaughan Carr gave a sneak preview on the Schizophrenia Library and Institute Chairman Peter Maher presented the annual Institute awards to our outstanding researchers.

Dr Jenny Wong from the Schizophrenia Research Laboratory won the 2009 Early Career Researcher award, and received \$7,000 to support her schizophrenia research studies. The 2009 Postgraduate Student award was presented to Sharna Jamadar from the University of Newcastle with an additional \$3,000 towards her schizophrenia research.

Many thanks to our event partners, Ramsay Health Care, PIPC Pty Ltd and Turning Point for their support for the evening.



Dr Melissa Green

Institute scientist leads new study

Dr Melissa Green, who has worked with the Institute for over 10 years, was recently named as an Australian Research Council Future Fellow, with her project attracting close to \$700,000 funding over four years from the federal government. She is leading a significant new study at the University of New South Wales, investigating the shared genetics basis between schizophrenia and bipolar disorder.

The study which requires over 300 people with schizophrenia, bipolar, schizoaffective disorder and healthy controls, is being conducted in collaboration with researchers at the Schizophrenia Research Institute, the Black Dog Institute, the Prince of Wales Medical Research Institute, and Leiden University, The Netherlands.

The work is being conducted as revisions to psychiatric diagnostic manuals are being undertaken and it is being considered whether schizophrenia and bipolar disorder should be grouped together.

"It's very controversial. There's not been enough evidence so far to support that change – this study will provide good quality evidence on this issue," said Dr Green.

The research will also aid the early detection of cognitive vulnerability to psychosis in adolescence, facilitating early intervention and the development of new treatments that can be personalised according to genotype.

Dr Green and her team will integrate data from genetics, functional neuroimaging, cognitive testing and physiological measurements to pinpoint shared genetic susceptibility to the conditions, which may manifest in common cognitive and frontal brain dysfunctions.

Supporter Survey Results

Thank you to all those who completed and returned our first supporter survey. This is of great value to us as we have learned more about your link to schizophrenia, your interest in our research and ways in which you would like to support us. We had a response rate of over 10 percent which was fantastic. Of those who completed the survey, the majority of supporters are affected by schizophrenia either through a friend, a family member or personally.

From the results of the survey, we also now know of another 21 kind people who have confirmed bequests in their wills and over 110 people considering leaving a gift. We thank you all for this fantastic gift which will ensure that research into schizophrenia will continue beyond our lifetimes.

Spark of Genius Art and Science Series

Spark of Genius' is a series of events founded in 2004 to raise awareness and funds for the Schizophrenia Research Institute. 2010 will see the launch of the Art and Science series, which aims to bridge the thinking between art and science with key speakers from both fields. Leading scientists will join with Australia's most renowned corporate art collectors to provide a fascinating insight into the innovation and creative sides of the working brain. Many thanks to Brookfield Multiplex Ltd who have already donated a beautiful artwork by Ray Crooke to be auctioned at this series. More details will follow in HeadLines next year.

Corporate Australia continues to offer support

The Investment and Financial Services Association (IFSA) continued their support of the Schizophrenia Research Institute and our community partner, the Inspire Foundation, at this year's annual conference in the Gold Coast. The Institute was delighted to receive over \$160,000 in gifts from a variety of IFSA members, bringing the total amount of donations over 3 years to \$575,000.

We are especially pleased to welcome John Brogden as the new CEO of IFSA – his insights and understanding of mental illness are a valuable addition to our ongoing partnership.



Prof. Vaughan Carr and John Brogden



Charity Christmas Cards

Order your personalized corporate Christmas cards and **40% per card will be donated** to the Schizophrenia Research Institute. **Minimum order 50 cards, card cost from \$1.29 each.**

www.christmascards4charity.com.au/sri
Tel: 02 9779 1533

Our Thanks In Memoriam

We offer our condolences and send thanks to the following families who have asked mourners to donate to the Institute in lieu of flowers and in memory of their loved ones.

- **David Zammit**
- **Daniel Beck**

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MANY THANKS to our government and major corporate supporters who have renewed their commitment to us and donated recently (July-September 2009)

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The Schizophrenia Research Institute is the only national medical research institute solely dedicated to discovering the ways to prevent and cure schizophrenia. A registered charity throughout Australia, we rely on donations to continue our work – www.schizophreniaresearch.org.au or 02 9295 8688.

Please help by completing and mailing this form to Schizophrenia Research Institute, 405 Liverpool Street, Darlinghurst, NSW 2010, or fax to (02) 9295 8689, or simply call (02) 9295 8688.

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