SCHIZOPHRENIA RESEARCH INSTITUTE

Our People:
devoting their lives to make a difference.

ANNUAL REPORT 2010

"I spent my first twenty years earnestly believing that with all my blessings I could make my mother better. She was the dearest person in the world to me. Now I know if there is an answer it lies only in medical research"

Jill Wran – Daughter
and Board Member

Our Mission: *To discover the ways to prevent and cure schizophrenia*

The tragedy of schizophrenia centres around loss. Loss of opportunities, loss of futures, loss of relationships and loss of self. My contribution is focused upon the prevention and cure that science is working hard to achieve. That way I can make a difference today where it matters, with our new generations, tomorrow.

Anne – Sister and Committee Member

"It saddens me to think of the pain and suffering that tormented my elder brother Shane. He had a sensitive soul, was blessed with a sense of humour, intelligence and natural creativity. He surfed, played guitar, studied chemistry at University, and had great friends – and then it all came to a grinding halt. I no longer carry around the feeling of 'if only I'd done….'. I'm sure he would understand. I truly hope we continue to be a community that cares for those in need"

Steve – Brother and Committee Member

Contents

“Schizophrenia strikes at a time when life should be offering so many opportunities and joys. I was experiencing these opportunities and joys while my brother, Michael was dealing with distressing delusions and hallucinations. Anything we can do to be able to avoid this disorder from developing must be investigated.”

Sandy – Sister and Researcher

"My son's schizophrenia is the first thing I think about in the morning and the last thing I think about at night. It must be so hard for him; I'm so proud of him and what he's accomplishing."

Norbert – Father and Committee Member

Mental illness affects one in five Australians. One in 100 young people will develop schizophrenia. Thirty per cent will attempt suicide.

Schizophrenia affects not only the people diagnosed with the condition, but their families, friends and the community at large. Those with the illness feel robbed, not just of their minds, but their future and often their voice and power in society.

The Schizophrenia Research Institute is the only medical research institute solely focused on discovering what causes schizophrenia, and how to prevent or cure it.

It is often family, friends, researchers and advocates that are the active voice. This 2010 annual report highlights some of those people who are dedicated to making a difference.

Chairman's report

Our People – bringing people together

The Schizophrenia Research Institute is based on mutual co-operation – our virtual model of bringing together the best scientific minds in schizophrenia research, no matter where they are located, ensures we are all working together towards our common goal, to find ways to prevent and cure schizophrenia.

One of the many limitations for people with schizophrenia is social withdrawal and reluctance to speak in public. That is why it is important for our team of people to speak out loudly on their behalf.

Our people are our scientists, our staff, board and committee members, our supporters, our fundraising community, our research volunteers and those we are trying to help, those living with the illness.

We are supported by sons and daughters, brothers and sisters, carers and parents of people with schizophrenia. This illness affects all sections of society and we thank board member Jill Wran, researcher Sandy Matheson and committee members Norbert Schweizer, Stephen Byrne and Anne Moore for sharing some aspects of their personal commitment to schizophrenia research in this 2010 annual report.

The commitment and professionalism of the schizophrenia research community is admirable. The success of the Australasian Schizophrenia Conference 2010 (ASC2010) is proof of this. Hosted by the Schizophrenia Research Institute and convened by Prof. Vaughan Carr, the conference had record breaking attendance and outstanding presentations.

Research is vital for improvement of people's lives and for future generations. It is a journey of discovery. The more we uncover about this illness, new avenues for research arise and we must grow and adapt to manage this journey.

Our scientists quietly dedicate themselves to the task of discovering more and making a difference to future generations. This is not an easy career path they have chosen but a vital one and we must continue to support them.

The Schizophrenia Research Institute believes we can make a difference to the one in one hundred young Australians who will develop this illness. Thank you for your continued help through donations, volunteered time and advocacy.

Peter Maher
Chairman

CEO's report

Our People – benefits of our research

The Australian Schizophrenia Conference 2010 provided a great opportunity to showcase the excellent calibre of Australian schizophrenia researchers to a wide audience, demonstrating the high level of scientific expertise in this country and highlighting the bigger picture for schizophrenia research.

We entitled the Conference's Public Forum 'Has research been of benefit to people with schizophrenia?' Led by Kerry O'Brien, the panel discussion and audience participation was lively and interactive, concluding that, yes, we have come a long way, while acknowledging that the journey ahead still presented formidable challenges.

The year 2010 brought new research milestones to the Institute. Our project to create the largest virtual brain bank for schizophrenia in Australia through the Australian Schizophrenia Research Bank was landmarked by opening its doors to Australian researchers, both within and outside the Institute's network of scientists. We also had the opportunity to contribute to an important international collaborative genetic study, a vital step in preparation for opening the Bank's doors to international scientists in 2011.

The Epidemiology and Population Health Group moved into the new O'Brien Mental Health building at St Vincent's Hospital in April this year, and was joined by Dr Kristen Laurens from the Institute of Psychiatry in London and Dr Melissa Green, an ARC Future Fellow.

A clinical trial led by Dr Tom Weickert and Prof. Cyndi Shannon Weickert, the Macquarie Group Foundation Chair of Schizophrenia Research, is progressing well and we hope to have updates to share by the end of 2011.

Our scientists are leaders in their fields. This year we are highlighting some of their individual achievements.These people have committed their careers to pursuing the scientific search for the causes and means for prevention of schizophrenia. We acknowledge their work through annual Institute awards, research funding, scientific summits for sharing information and discussion, and by supplementing travel costs to conferences.

Our community is wider than scientists alone. Without those living with schizophrenia who volunteer to take part in our research, we could not make the progress that we have. Thank you all and I look forward to sharing more of our progress with you in 2011.

Prof. Vaughan Carr
Chief Executive Officer

The Board of Directors

Peter Maher

Chairman
Non-Executive Director

Peter Maher became a board member in 2003 and has been chairman since 2006. He is Group Head of Macquarie Group Ltd's Banking and Financial Services Group. He is also the current Chairman of Macquarie Equities Limited, Chairman of Macquarie Financial Services Holdings Ltd, a board member of Macquarie Investment Management (NZ) Ltd, Macquarie Investors Ltd, Macquarie Digital Pty Ltd, and Religare Macquarie Wealth Management Ltd. He is also Chairman of the Financial Services Council.

Vaughan Carr

Chief Executive Officer
Executive Director

A board member since 2004, Prof. Vaughan Carr is the CEO of the Schizophrenia Research Institute and Prof. of Schizophrenia Epidemiology and Population Health at the University of New South Wales. He was previously Prof. of Psychiatry at the University of Newcastle and Past President, Australian Society for Psychiatric Research.

Matthew Cullen

Deputy Chairman
Non-Executive Director

Matthew Cullen joined the board in 2004. He is Group General Manager of Medibank Health Solutions and Visiting Medical Officer St Vincent's Hospital Sydney. He is a Fellow of the Royal Australian and New Zealand College of Psychiatrists, a Member of the Australian Institute of Company Directors, and Associate Fellow of the Australian College of Health Service Executives.

Dr Cullen was previously a Member of the NSW Mental Health Review Tribunal and a Board Member of the Schizophrenia Fellowship of NSW.

Chris McDiven

Chair Elect 2011
Non-Executive Director

Currently a Company Director and Chairperson of the International Women's Democrat Union Chris McDiven joined the board in 2009. She is a member of the organising committee for the International Conference of Asian Political Parties 2009, and President of the NSW Kambala School Council; formerly Federal President of the Liberal Party of Australia (2005–2008), and Liberal Party State President NSW (2000–2005). She was previously President of the Federal Women's Committee (1994–1997), and board member of the Australian Sports Foundation, the Keep Australia Beautiful Council, the National Foundation of Australian Women, and the Powerhouse Museum Fundraising Committee.

The Board of Directors cont'd

Sam Lipski (1)

Non-Executive Director

Sam Lipski is the Chief Executive of The Pratt Foundation, and from 2000 to 2006 he served as President of the State Library of Victoria. He has founded, published, written for and edited a diverse range of publications around the world.

Amongst his community involvements he has been a Member of Council at the Swinburne University of Technology and a Trustee of the Australian Refugee Foundation. He has been an Institute board member since 2007, is a participant in the Annual Australian American Leadership Dialogue and is on the Board of the National Institute for Circus Arts. Mr Lipski became a Member of the Order of Australia in 1993 for his services to the media. In 2003 he was awarded the Centenary Medal of Australia for services to journalism.

Resigned: September 2010

Rita Mallia (2)

Non-Executive Director

A board member since 2003 Rita Mallia is Senior Legal Officer / Co-ordinator for Construction Forestry Mining Energy Union, formerly the Workers Compensation Officer. She is also a Director of the NSW Dust Disease Board, and a Member of the Construction Industry Reference Group.

Anne Mortimer (3)

Non-Executive Director

Anne Mortimer joined the board in June 2010. Anne is Strategy and Business Development Manager for Mental Health – Ramsay Health Care. Anne is also CEO of the Northside Group (part of Ramsay Health Care) which comprises three private mental health hospitals in Sydney. She is a member of the Australian Mental Health Council, Australian Private Hospital Association and Mental Health Priority Taskforce.

Trish Oakley

Non-Executive Director
Company Secretary (until February 2010)

Trish Oakley has been a board member since 2001 and is Associate Director, Elton Consulting, specialising in strategic communications. Formerly Director, Meridian Media; Chief of Staff, Andrew Refshauge's Office, NSW Government (1995-1999); Press Secretary and Political Strategist for Dr Refshauge as Deputy Leader of the Opposition (1990-1995), and a former ABC journalist.

Resigned: February 2010

Christos Pantelis

Non-Executive Director

Christos Pantelis is Foundation Prof. of Neuropsychiatry and Scientific Director of the Melbourne Neuropsychiatry Centre at The University of Melbourne and Melbourne Health. He is honorary Principal Research Fellow at the Howard Florey Institute and the Centre for Neuroscience Victoria. A board member of the Institute since 2004, he is also on the board of the Mental Illness Fellowship of Victoria and member of the Scientific Advisory Council of Neurosciences Victoria. He sits on the Editorial Boards of several key research journals.

Resigned April 2010

Christopher Rex (4)

Non-Executive Director

A board member since 2006, Christopher Rex has been with Ramsay Health Care since 1995 as Managing Director and previously Chief Operating Officer. He is a former General Manager of Macquarie Hospital Services.

Resigned: July 2010

Alexandra Rivers

Non-Executive Director

Alexandra Rivers is a carer, psychologist, ex academic, Member Guardianship Tribunal, NSW; (Guardian and Litern, Children's Court NSW; Guardian and Litern, Administrative Decisions Tribunal NSW;) She is Vice President Schizophrenia Fellowship of NSW, and Aboriginal Education Council of NSW; Member, Governing Committee Australian Consumers' Health Forum. Mental Health Carer and Consumer National Register. She has been a board member since 2003.

Michael Visontay (5)

Non-Executive Director

Michael Visontay joined the board in February 2010. He is editor in chief at CathNews and a lecturer in Media at the University of NSW. Previously, Publisher of ABC Books, Deputy Editor of the Sun Herald and Managing Editor of Sections for the Sydney Morning Herald.

With 25 years experience in publishing in Australia he is highly regarded for his years in journalism and was the winner of the European Union Journalism Award in 2007.

Cynthia Shannon Weickert (6)

Non-Executive Director

Cyndi Shannon Weickert is the Macquarie Group Foundation Chair of Schizophrenia Research leading the Schizophrenia Research Laboratory and has been a board member since 2007. Formerly Unit Chief, of MiNDS (Molecules in the Neurobiology and Development of Schizophrenia), Clinical Brain Disorders Branch, National Institutes of Health, 2004-2007. Senior Staff Fellow, NIH, NIMH, Clinical Brain Disorders Branch, April 1999-April 2004. Postdoctoral Intramural Research Training Award-NIH, NIMH Clinical Brain Disorders Branch, 1995-1999. She holds a PhD from Mount Sinai School of Medicine, CUNY, New York, NY, Ph.D. Biomedical Science, 1990 -1995.

Jill Wran (7)

Non-Executive Director

Jill Wran joined the board in 2009. She is a Board Member of SMEC Holdings Ltd, and other companies, Chairperson of the Historic Houses Trust, Council member of the University of New England, Honorary Vice-President of the Australian Institute of International Affairs, and Patron of Greening Australia (NSW); formerly a Director of Bilfinger Berger, Abigroup, Ansett New Zealand, the Australian Graduate School of Management, International Grammar School, NSW State Conservatorium of Music, Sydney Symphony Orchestra, Centennial and Moore Parks Trust, and the Sydney Opera House Trust.


1


2


3


4


5


6

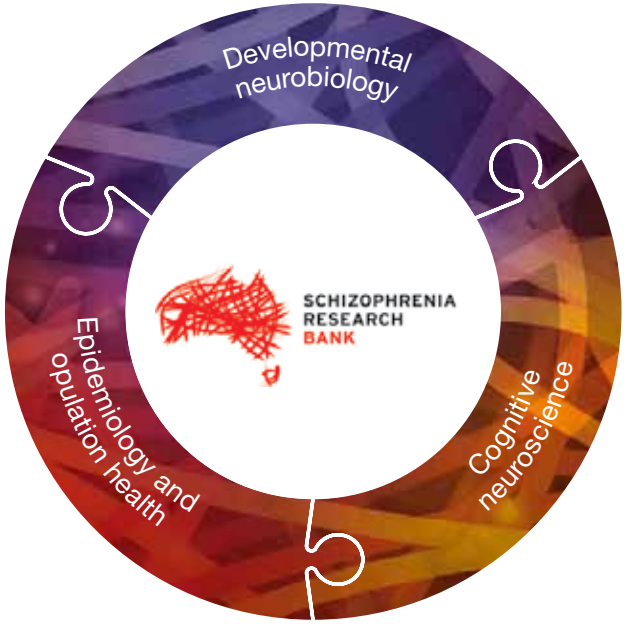

7

Research Overview

The Schizophrenia Research Institute is the only national medical research institute solely dedicated to discovering the ways to prevent and cure schizophrenia.

The Institute was established by passionate scientists and parents of patients in 1996 as Australia's first virtual medical research Institute, at a time when little research was done into schizophrenia in NSW. The mission of the Institute is to discover the ways to improve treatments, prevent and cure schizophrenia.

The organisation conducts and supports schizophrenia research in hospitals, universities and research institutes across the country and internationally. With a national network of 200 researchers, the Institute drives a proactive research agenda, has invested over $26 million and has had numerous successes to date.



2010 Highlights

First Clinical Drug Trial underway

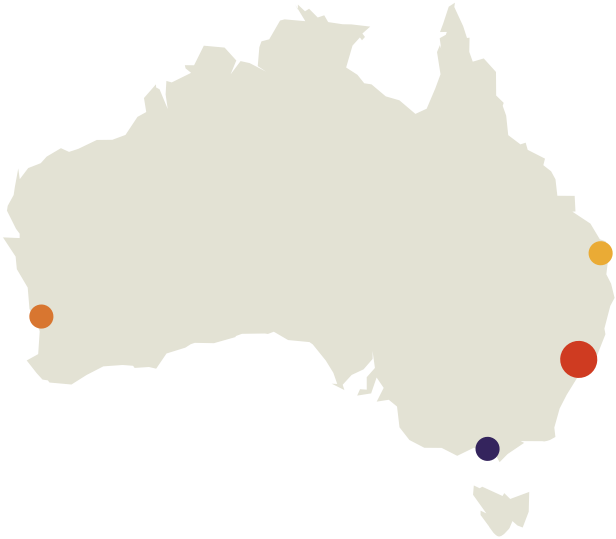
Australian Schizophrenia Research Bank opens doors

Schizophrenia Library launches online

Collaborative partners

Universities and Institutes

The Institute conducts and supports research with Universities and Institutes across the country including the following locations:



New South Wales

ANSTO

Macquarie University

Neuroscience Research Australia

University of Newcastle

University of NSW

University of Sydney

University of Wollongong

Victor Chang Cardiac Research Institute

Queensland

University of Queensland and Queensland Centre for Mental Health Research

Victoria

Mental Health Research Institute of Victoria

University of Melbourne

Western Australia

Centre for Clinical Research in Neuropsychiatry

University of WA

Australasian Schizophrenia Conference ASC

"An absolutely top notch panel, intelligently moderated, delivered always with heart, and with sharp focus on the facts." Audience member

The Schizophrenia Research Institute was the organizing body for the biennial Australasian Schizophrenia Conference (ASC2010). Held at the Sheraton on the Park, Sydney and convened by Prof. Vaughan Carr, ASC 2010 was a great success, bringing together some of the best minds in schizophrenia research, not just from Australia but internationally.

'Has research been of benefit to people with schizophrenia?' was the topic of discussion at the ASC2010 Public Forum. The panel, led by Kerry O'Brien, consisted of Prof. Vaughan Carr, Australian of the Year Prof. Patrick McGorry, Prof. Cyndi Shannon Weickert, patient ambassador Richard Schweizer, International speaker Prof. David Penn and Schizophrenia Fellowship of NSW representative Elaine Goddard

The conference was officially opened by Her Excellency, Prof. Marie Bashir AC CVO, Governor of NSW who commented on how far we have come in our understanding of schizophrenia and congratulated the participants on the impressive program, sending a strong message of encouragement to those working in this field.

With record attendance of over 350 delegates, the success of the conference was mainly due to the wide range of research covered from psychosocial treatments to molecular genetics.

Affiliated organisations

Sponsors


1


2


3


4


5


6

(1) Prof. Vaughan Carr
(2) Kerry O'Brien
(3) Her Excellency Prof. Marie Bashir AC
(4) Prof. Patrick McGorry
(5) Prof. Cyndi Shannon Weickert
(6) Prof. Ulrich Schall

Our People

Dedicated to making a difference

Our networks of scientists are based at a wide range of universities and institutes doing work in schizophrenia research.

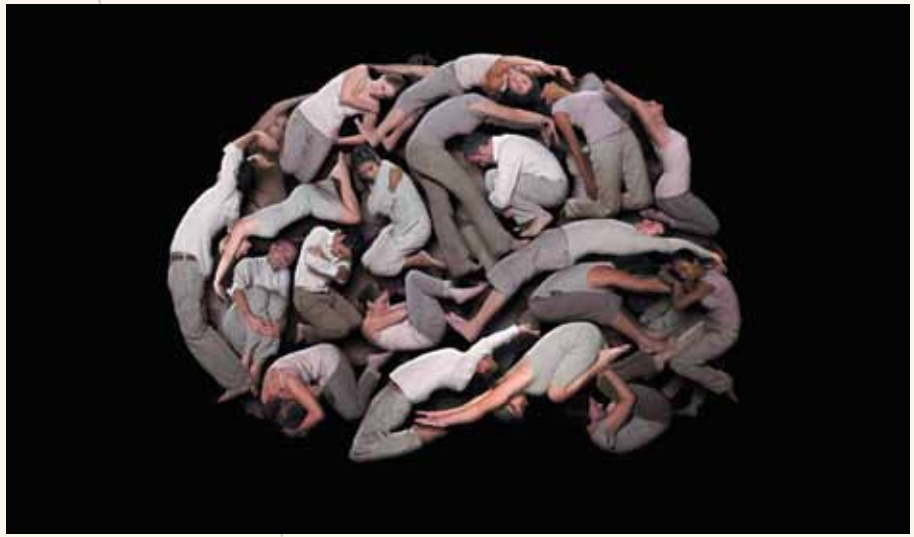
Research Volunteers

Patient Ambassador, Richard Schweizer, who is undertaking a PhD in the Sociology Department of the University of Sydney, has been awarded an Australian Postgraduate Award from the University for his Research Doctorate studies.

Schizophrenia is a condition unique to human beings. Although we can learn much about the cellular development of the brain from post mortem tissue, in order to truly understand the complexity of the illness we are reliant on people living with schizophrenia to volunteer to take part in research.

Thanks to the generosity of all our wonderful research volunteers, a total of 34 research projects were supported by the Australian Schizophrenia Research Bank. By taking part in the Australian Schizophrenia Research Bank, your contribution will be used in perpetuity to help future generations of people affected by schizophrenia.

SCHIZOPHRENIA RESEARCH BANK



Many research studies into schizophrenia are limited by the amount of volunteers available. The Australian Schizophrenia Research Bank (ASRB), Australia's largest brain project in schizophrenia, aims to overcome this issue by collecting clinical data, DNA and brain scans from thousands of research volunteers.

The Bank opened its doors to Australian researchers in 2010, giving access to larger samples and thereby enabling more meaningful results to many studies.

Our team, headquartered at the University of Newcastle, worked tirelessly with our interstate collaborators to reach this milestone. We could not have achieved this without the technological boost from eResearch experts, Intersect, who provided us with a commercial grade database worth $800,000 which was launched by the Hon. Jodi McKay, Minister for Science and Medical Research in February 2010.

Carmel Loughland, Manager ASRB

The Bank has also been involved in its first international replication study. This is an important step as over the last 20 years there have been multiple genetic studies of schizophrenia but very little replication of the findings, replication being a crucial step in research.

Recruitment for the Bank is a slow process but we have been fortunate to partner with the Study of High Impact Psychosis (SHIP), a coalition of scientists undertaking a national study of the prevalence of psychosis and associated patterns of disability and service use. This partnership is an invaluable opportunity to grow the Bank's resources, enhance its national profile and open up new opportunities for scientific collaboration. Thank you to our partners in helping to place the Australian Schizophrenia Research Bank in a key position to make future discoveries.

It is anticipated that by July 2011 access will be extended to international scientists and commercial organisations.

Visit the new Australian Schizophrenia Research Bank website at **www.schizophreniaresearch.org.au/bank**

Developmental Neurobiology

The Macquarie Group Foundation Chair of Schizophrenia Research

Prof. Cyndi Shannon Weickert and her team at the Schizophrenia Research Laboratory are conducting the Institute's first clinical drug trial.*

Although the environment plays a strong contributing part to the development of schizophrenia, we know that 80% is hereditary and therefore our understanding of the genetics of this illness is vital to future progress.

The developing brain and schizophrenia

Watching her twin brother develop schizophrenia in his teens, Prof. Shannon Weickert has spent the last twenty years investigating how the developing brain is affected by genes, hormones and growth factors in schizophrenia.

Our team at the Schizophrenia Research Laboratory* is conducting a clinical trial aiming to improve cognitive performance in people with schizophrenia. This double-blinded trial involves 88 schizophrenia patients who are stably medicated, each of whom will undergo a 6-week trial of the hormone modulator, raloxifene, compared to 6 weeks of placebo. Both groups will undertake symptom assessment, cognitive testing, brain scanning and blood tests to identify whether there are any improvements after taking raloxifene. Initial results suggest that the medicine is well tolerated and that compliance is good. Scientific procedures require that we maintain the blind to ensure that there is no bias in the results, so we are unable to determine who may have received benefit from the new drug. We look forward to analysing the results of this trial in the second half of 2011.

In 2010 we have been the first group to demonstrate a link between the oestrogen and neuregulin-1 pathways. These findings indicate that the reduced health and viability of neurons found in schizophrenia could potentially be caused by damage in either of two pathways: the oestrogen receptor or the Neuregulin-1 receptor ErbB4.

This research builds an understanding of the ways in which the oestrogen pathways in the brain might be targeted to reduce the symptoms of schizophrenia and offers important leads on other targets.

Critical Vulnerable Times

A key question for our team is when does schizophrenia begin? We are trying to identify the critical time periods during which the brain changes seen in schizophrenia occur. By identifying when 42 susceptibility genes get switched on in the brain, we are one step closer to building a picture of how and when these genes are altered in schizophrenia.

Stress is often associated with the onset and relapse of psychosis in schizophrenia; however the mechanisms by which stress is involved are not yet clear. By measuring glucocorticoid receptors (a key neurotransmitter in the stress response) in various brain cells from birth to adulthood, the team has found two time windows of stress vulnerability: infancy and again during late adolescence. Infancy and late adolescence therefore form critical time windows in which the brain is vulnerable to stress and its influence on development including aberrant changes leading to mental illness. This research indicates which times are critical for people most vulnerable to the genetic and environmental factors leading to schizophrenia and suggests that mitigation against early life stress in babies and social stress in teenage years is especially important.

Nerve growth factors in schizophrenia

Brain-derived neurotrophic factor (BDNF) is a nerve growth factor critical for normal brain development. Our team was the first to report and replicate that people with schizophrenia have reduced BDNF in brain. However our recent data suggests that increasing BDNF levels alone may not be enough to overcome the symptoms of schizophrenia. Although we have shown that antidepressants up-regulate brain and blood BDNF, they do not lead to robust cognitive improvement or noticeable schizophrenia-symptom reductions.

This is because the smaller dysfunctional BDNF receptor is increased in brains of people with schizophrenia. Thus, more of the dysfunctional receptor may be blocking the clinical effectiveness of antidepressants in people with schizophrenia. We hypothesize that the drug used in our clinical trial can overcome the BDNF signaling blockade as we have recently proven that oestrogen signaling can act down-stream of BDNF suggesting it may mimic some of the beneficial actions of BDNF.

To date, all the laboratory work supports the theory that the drug used in our clinical trial should be of benefit to people with schizophrenia, even if some of the causes of schizophrenia are diverse.

**The Schizophrenia Research Laboratory is a joint initiative of the Schizophrenia Research Institute, University of NSW, Neuroscience Research Australia (NeuRA), and the Macquarie Group Foundation. It is supported by NSW Health.*

DEVELOPMENTAL NEUROBIOLOGY

Dr Victoria Dalton – Recipient of the Schizophrenia Research Institute Early Career Research Award 2010

Post-doctoral Research Officer Dr Victoria Dalton works with the Australian Nuclear Science & Technology Organisation (ANSTO) focusing on the connection between cannabis and schizophrenia.

Other Institute supported scientists at ANSTO include Dr Mathieu Verdurand and Dr Katerina Zavitsanou.

The adolescent brain after exposure to cannabinoids

Effects of cannabis use during adolescence

Although cannabis use during teenage years is linked to the emergence of psychoses including schizophrenia in later life, it remains one of the most widely used street drugs by adolescents.

The teenage years are a critical period for brain maturation when many connections between nerve cells are being formed as well as eliminated and fluctuations are occurring in levels of brain chemicals. It is likely that cannabis use during adolescence may adversely influence the developmental processes taking place in the adolescent brain leading to the development of psychosis at least in some individuals predisposed to the disorder.

More information about the brain mechanisms underlying the onset of drug abuse-induced psychosis could shed light on the brain disturbances which result in the symptoms characterizing psychotic disorders as well as lead to the development of treatments to neutralize or reduce any psychosis causing effects of such drug abuse.

Behavioural studies in animal models show that adolescent and adult rodents respond differently to cannabinoids in the short and long term. Our aim is to gain a greater understanding of the underlying changes that take place in adolescent brain chemical systems that drive the age-specific behavioural responses to cannabinoids.

Age-specific difference in response to cannabinoid exposure

In our studies, we examined the underlying changes in brain chemical systems that occur after exposure to cannabinoids and whether these changes differ between adolescent and adult animals. By treating animals with a synthetic cannabinoid, HU210, we have found that the adolescent brain responds in a different way to cannabinoid treatment compared to the adult brain. After cannabinoid treatment, we saw a decreased adaptive response in brain chemical systems in adolescent animals, in brain areas which are important in memory, cognitive processing and attention, and those producing the rewarding effects or “high” associated with drugs of abuse. It is possible that this decreased response may have an adverse effect on the developmental changes taking place in various brain chemical systems during adolescence, encouraging further drug consumption, increased drug dependence or development of psychosis in the long term.

The Genetics Puzzle – Small Changes, Big Effects

Schizophrenia is known to be strongly linked to genetic changes. However a wide variety of genes may be involved, each of small effect, and interacting with each other and with environmental influences.

MicroRNAs are exceptionally small pieces of RNA derived from non-coding genetic material. Their only function is to control the activity of other genes. They have a powerful influence on the development of the brain.

Working with the Institute's genetics team at the University of Newcastle, Ms Beveridge's research has focused on the genetic and epigenetic influences of microRNA in neuronal differentiation, human postnatal development and schizophrenia.

The team has discovered that dramatically elevated levels of microRNA could regulate the expression of a large number of genes, many of which have already been implicated in the illness.

More recently, the group has demonstrated that the miR-17 family (of microRNA) may also be involved in the development of schizophrenia and are currently exploring this. Interestingly these small molecules from the miR-17 family are involved in the differentiation of brain cells into distinct cell types with different roles in the brain. Altering the neuronal differentiation pathways suggests a possible mechanism behind the involvement of these small genetic molecules in schizophrenia and related disorders, and therefore may provide a target for preventing some of the widespread changes caused by this illness.

In 2010 Ms Beveridge's accomplishments have exceeded usual expectations of a young PhD student as she has had three papers accepted for publication and presented at three conferences.

The Schizophrenia Research Institute is committed to support the professional growth of young scientists from undergraduate to doctorate to fellowship. It is often in the early years of a scientist's career that help is hard to find – with our support we help develop the skills of the researcher until they are able to achieve independent funding.

Ms Natalie Beveridge has been supported by the Institute since January 2006, under the professional supervision of genetics experts Dr Murray Cairns and Dr Paul Tooney.

Winner of the Schizophrenia Research Institute Post Graduate Student Award 2010

PhD student, Ms Natalie Beveridge, University of Newcastle, is supported by the Schizophrenia Research Institute

DEVELOPMENTAL NEUROBIOLOGY

Dr Chao Deng, University of Wollongong works with Institute researcher Prof. Xu-Feng Huang. Other Institute supported scientists at UOW include Dr Elisabeth Frank and Dr Kelly Newell

Dr Deng has been awarded major competitive NHMRC Project grant funding to support his research

How do antipsychotic medications work?

Antipsychotic medications revolutionised the treatment of schizophrenia in the 1950s allowing many people to live without the daily horror of hallucinations.

Although recent atypical antipsychotic medications such as olanzapine and clozapine have many advantages over their predecessors, they are associated with debilitating metabolic side effects, leading to other health issues including obesity and Type 2 Diabetes.

Our team at the University of Wollongong is investigating exactly what these medications are doing in the brain with the aim of overcoming these side effects and improving treatments. We are investigating the histaminergic system as H1 receptors in this system regulate hunger and food intake. Our findings indicate that this system must be considered in the development of new medications and may present a target for counteracting the metabolic side effects of atypical antipsychotics.

Another drug whose mode of action is of great interest is aripiprazole. We have found that aripiprazole, as a functionally selective drug, has a different effect on the dopamine system than other antipsychotic medications. A selective reduction of dopamine synthesis in the ventral tegmental area may underlie this drug's clinical action with fewer side effects. Dr Deng will continue to investigate this functionally selective mechanism of aripiprazole with a NHMRC project grant support.

Disrupted pathways in Serotonin receptors

Our team has done previous studies demonstrating an involvement of the serotonergic system in the development of schizophrenia. However recent studies in the superior temporal gyrus show increased expression of serotonin 5-HT2A receptors. This provides a possible mechanism for auditory hallucinations to occur. These findings are important as they identify disrupted pathways in schizophrenia, providing potential targets for intervention or treatment.

Dr Tim Karl, Neuroscience Research Australia (NeuRA), focuses on susceptibility genes and environmental factors

Genetic changes are known to play a large role in the development of schizophrenia but the precise nature of these gene changes and how they interact with each other and with the environment require more research. Our group uses a variety of techniques to investigate these genes, including the examination of how reduced expression of susceptibility genes influences the brain and behaviour in small animals. We use behavioural phenotyping techniques and pharmacological tools to investigate how genetic and environmental risk factors interact in the development of schizophrenia.

One area of great interest to our researchers is the neuropeptide Y (NPY) system which is known to be involved in regulating emotion and has been implicated in the development of schizophrenia.

Our team examined mouse models with reduced expression of the NPY receptors Y1 or Y2, and investigated their behaviour in tasks that reflect social, cognitive and behavioural features relevant to schizophrenia.

Although there were no changes to their memory performance, Y2 deficient mice showed increased locomotion, social interaction and improved sensorimotor gating (prepulse inhibition performance; which is impaired in many people with schizophrenia).

In addition, Y1 deficient mice demonstrated altered acoustic startle response, and a more pronounced response to dexamphetamine in the prepulse inhibition task (PPI); however no change to baseline sensorimotor gating (as measured by PPI) was seen. These findings provide further evidence that the NPY system might be involved in schizophrenia-related behaviours.

We are also continuing our investigations into the susceptibility gene, Neuregulin-1 (Nrg1) and our results indicate a subtle role for Nrg1 in schizophrenia-related neural systems and cognitive behaviours which require further investigation.

Cognitive Neuroscience

Prof. Ulrich Schall, University of Newcastle is a Cognitive Neuroscientist at the Priority Centre for Brain & Mental Health Research. A psychiatrist and psychologist, he is leading a key team for the Schizophrenia Research Institute.

Prof. Schall has been awarded major competitive NHMRC grant funding to support his research

Schizophrenia is a complex illness with not just one known cause but a range of risk factors (eg. family history, early cannabis use.) Early intervention in those with psychosis can lead to better long-term social, occupational and general functioning outcomes. Currently there is insufficient understanding of the development of early psychosis to enable very early intervention.

Minds in Transition

Our team at the University of Newcastle is leading a NHMRC-funded study aiming to understand how genetic risk and environmental factors (eg. illicit drug use by young people) alter the course of normal brain development and thereby lead to a psychotic illness.

We are looking at why young people transition from an 'at risk mental state' to a first episode of psychosis. The 'at risk mental state' is not a clinical diagnosis but a combination of factors such as family history of severe mental illness and/or an unexplained drop in well-bring and everyday functioning. By comparing this high risk group of young people with matched controls, our 'Minds in Transition' study will closely map the transition from high risk to psychosis.

This project which is being conducted in Newcastle, Orange and Sydney is recruiting young people (12-25 years) from clinical centres and through the website – www.mint.org.au. Volunteers undergo a variety of clinical and psychological tests, including MRI scans of their brains, a blood test to detect changes in the activity of genes known to be associated with mental illness, EEG recordings of mismatch negativity to detect early signs of sound processing deficits which are commonly seen in people suffering from schizophrenia.

It is anticipated that around 30 percent of volunteers will go on to develop psychosis and up to 15% will develop schizophrenia. The results will inform on the early signs of the later emerging illness, how they develop over time and what factors promote or prevent a transition from the at risk mental state to schizophrenia.

This important study has the potential to identify those who are most at risk of developing a psychotic disorder, forming the basis of targeted monitoring and intervention far earlier in the disease process than is currently possible.

www.mint.org.au

COGNITIVE NEUROSCIENCE

Dr Juanita Todd, University of Newcastle, specialises in measuring the brain's response to sound

Dr Todd has been awarded major competitive NHMRC grant funding to support her research

Sound and its influence on the brain

Schizophrenia affects a variety of brain functions, including cognition and perception; these alterations are disabling, and have been linked to the hallucinations and delusions characteristic of psychosis.

Our team uses a variety of measures to identify changes in attention, perception and cognition in those with schizophrenia. Mismatch negativity is a measure of how well the brain organises sound information. It is an automatic response to sounds that are different to what the brain expects based on past experience. Although a simple measure, this process can teach us about how well the brain uses experience to determine what is important and what is not. Institute researchers were the first to demonstrate deficits in mismatch negativity in those with schizophrenia, and this robust finding has been found repeatedly across most schizophrenia patients.

The study features the use of mismatch negativity measures to indicate how well the brain can use learned contingencies to predict the structure of the sound environment. We have demonstrated that this application of mismatch negativity is strongly related to key cognitive abilities, such as working memory. We will now use these techniques to investigate why this process is impaired in schizophrenia, and how these impairments are related to cognitive deficits and symptoms. We will also be studying the same processes in first degree relatives of persons with schizophrenia who do not have a psychotic illness. This will help us understand which aspects of the impairment might be related to inheritance. It is hoped that this research will lead to a better understanding of schizophrenia and improved management of symptoms in daily life.

Dr Melissa Green, University of New South Wales, is a Senior Lecturer and ARC Future Fellow in the School of Psychiatry.

Dr Green has been awarded major competitive NHMRC and ARC funding to support her research, and her work utilizes the Australian Schizophrenia Research Bank.

Imaging genetics in schizophrenia and bipolar disorder

Uncertainty about a person's diagnosis is common after psychosis, and is often a cause of confusion and frustration for patients and their families. The reality is that many people experience a combination of psychotic and mood symptoms that do not fit neatly into the categories of 'schizophrenia' or 'bipolar disorder', and diagnoses can change over time.

In noting this clinical reality, and the recent evidence of shared genetic susceptibility for both illnesses, our team aims to determine whether candidate genes implicated in the development of schizophrenia and bipolar disorder are associated with common cognitive problems in working memory, attention and the regulation of emotion.

We understand that a combination of genetic factors and environmental stressors play a role in both illnesses. However, the precise genetic contribution has been difficult to determine until recently. Now with new advances in genome-wide analyses techniques, and the use of large patient samples not restricted to one diagnosis, the power to detect significant genetic effects has increased, and several candidate genes are now strongly implicated in the development of both conditions.

This five-year study will include 300 people in total - 100 with schizophrenia or schizoaffective disorder, 100 with bipolar disorder, and 100 healthy controls. With the help of volunteers from the Australian Schizophrenia Research Bank, we are using neuroimaging techniques to examine what the brain is doing while the volunteer undertakes a range of cognitive tests.

The different patterns of brain function will be used as targets for genetic association (regardless of diagnosis). We hope that the results will assist in the development of personalized treatments to target cognitive difficulties associated with disorders on the psychosis spectrum.

Preliminary results of genetic association with cognition using schizophrenia volunteers will be available later in 2011.

Epidemiology & Population Health

Dr. Kristin Laurens specialises in longitudinal studies of child development and works with the Institute's CEO, Vaughan Carr, Prof. of Schizophrenia Epidemiology and Population Health at the University of New South Wales.

Dr. Laurens and Prof. Carr have been awarded major competitive grant funding from the Australian Research Council to support their research.

The NSW Child Development Study

Understanding what happens in a child's life can help prevent illness in adult life. Schizophrenia is a neurodevelopmental disorder, with its origins lying much earlier in life than the onset of first psychotic symptoms; at present the early life factors involved in the illness are not well understood. There are many complexities, and the pathways to poor mental health can only be identified using large populations.

Our team at UNSW is progressing with a longitudinal child health study, which aims to identify risk factors in children that may be vulnerable to the development of mental disorders, including schizophrenia. We will also identify preventative factors that characterise children who show resilience. This study will also highlight other social and well-being outcomes in adolescence and early adulthood.

We are partnering with other organisations such as the NSW Department of Health and the Department of Education and Training to link administrative databases, such as birth and education records, to identify early markers that may be associated with health and well-being later in life.

We aim to follow over 80,000 primary school age children over a 5-20 year period, to identify population-level risk and protective factors that influence mental health-related outcomes during adolescence and early adulthood.

We will focus particularly on records of emotion regulation; social behaviour; academic achievement and cognitive function. The knowledge gained on the developmental trajectories in these children may help to establish effective early detection and prevention programs.

Epidemiology is the scientific study of health and disease in populations; aiming to identify risk factors for disease and to track health outcomes across communities.

World First Schizophrenia Library

Sandy Matheson manages the Schizophrenia Library. Ms Matheson works with other Institute researchers Alana Shepherd and Rachel Pinchbeck.

The Schizophrenia Library is a world first, free, online source for a wide range of information on schizophrenia. The brainchild of Prof. Vaughan Carr, the Library was given full support and funding of over $1M from NSW Health to the Schizophrenia Research Institute.

The task of compiling the Schizophrenia Library for all evidence reviews on schizophrenia from six international medical databases was a huge task.

The Library, which provides free information online was launched with the first 100 topics in June by the Hon. Carmel Tebbutt, MP, Minister for Health and the Hon. Barbara Perry, MP, Minister for Mental Health and is on track to be completed by the end of 2011.

On completion the Library will allow the general public, researchers, clinicians and policy makers to search from over 350 topics to discover more information on diagnosis, treatment, risk factors and course and outcomes of the illness.

The wide range of topics is grouped into nine different categories, including treatment, signs and symptoms, risk factors, diagnosis, course and outcomes of the disorder, physical factors, comorbid conditions, population perspective and information on families.

Our team source the information from existing medical literature and all evidence is assessed and graded. Each topic is rated based on the quality of the evidence. A low quality rating does not discount the evidence provided but shows that more research needs to be undertaken in that area.

Although developed for research purposes to identify gaps in knowledge, the Schizophrenia Library will also serve as an online encyclopaedia to the community on all aspects of schizophrenia. It is the Institute's first service to the community and nothing quite like this exists either in Australia or globally.

The Library has already announced the importance of family intervention in improving the short and long-term outcomes for people living with schizophrenia, and the value of brain stimulation in effective treatment of patients who are resistant to antipsychotic medication. A regular enewsletter is available to keep people up to date with new additions to the Library – subscribe at:

www.schizophreniaresearch.org.au/library

SCHIZOPHRENIA LIBRARY

Community

Our Scientists

Each year in recognition of high achievements the Institute gives two awards to some of the most gifted researchers.

Dr Victoria Dalton from the Institute's group at ANSTO received the Early Career Research award and $7,000 to support her research in recognition of her work on the impact of early and late environmental challenges during development.

Ms Natalie Beveridge from the Institute's group at the University of Newcastle was awarded the Postgraduate Student award and $3,000 to support her genetic research particularly expression of microRNA.

Our Advocates

Don McDonald, who worked tirelessly for many years to raise awareness and much needed funds for the Schizophrenia Research Institute, was awarded a Member of the Order of Australia (AM) in the 2010 Queen's Birthday honours. Don's efforts were driven because his son suffers from the illness and he is a founding member of the Schizophrenia Research Institute.

Another passionate Institute supporter, Mr Norbert Schweizer, received an order of merit from the German Government for his dedication to the German community and works of philanthropy in Australia. He received his medal at a private function at the Vice Consul Generals residence in Sydney.

The board and staff of the Institute send Don and Norbert their heartiest congratulations.

Fundraising and Marketing

The Institute is grateful to all its supporters from government, corporate, trusts and foundations, individual donors and the community.

Many thanks to our major partners and supporters for their commitment to our cause including NSW Health, National Health & Medical Research Council, Macquarie Group Foundation, FSC (Financial Services Council) and The Pratt Foundation.

Through our sponsorship programs, online fundraising campaign SwearStop and the new Art & Science series of events, we have had great support this year from our partners at Ramsay Health Care, Janssen-Cilag, Lundbeck, Abigroup and Paynter Dixon.

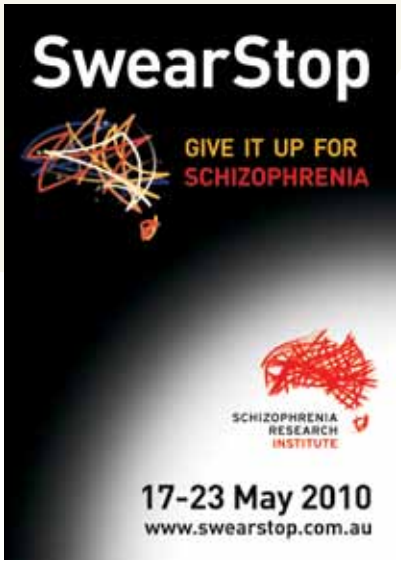
In particular the Institute's fundraising committees have made a great impact on income, new relationships and awareness during 2010. Many thanks to all the committee members for joining our team and volunteering your time so generously.

KEY EVENTS

SwearStop
www.swearstop.com.au

SwearStop 2010, the fun online campaign, created great awareness during Schizophrenia Awareness Week in May and increased income by 23% since 2009. The campaign, where friends and colleagues sponsored each other online to give up swearing for the week, was championed by SwearStop Ambassador Ray Warren who undertook a record number of media interviews to get across the message of the need for support. Our thanks to Ogilvy PR Health for their media relations skills.

The campaign attracted a large number of new enthusiastic ambassadors. Our thanks go to Ray Warren, NRL stars Nate Myles, Ben Ross, Eric Grothe, Ricky Stuart, Mark Geyer, Sydney FC striker, Kofi Danning, Miss World Australia Sophie Lavers, Glenn Wheeler and celebrity chef Ben O'Donoghue.



Schizophrenia Library Launch

The Schizophrenia Library was launched by the Hon Carmel Tebbutt, MP Minister for Health and the Hon. Barbara Perry, MP, Minister for Mental Health with the first 100 topics, creating the first service to the community for the Institute. A free one stop online shop, the Library will be an important resource for anyone seeking information on the illness.

art & science 2010

Art & Science

Thanks to the Macquarie Group Foundation and Deloitte for hosting Art and Science events in 2010. The series of events aims to bridge the thinking between art and science with key speakers from both fields.

At Macquarie Group's Shelley St office in Sydney, Prof. Carr held an 'in conversation' interview with artist Janet Lawrence. The Deloitte event was a panel discussion with guest artists Justene Williams, Julie Rrap and Simon Yates.

Both evenings provided a preview of private corporate art collections and a fascinating insight into the innovative and creative sides of the working brain.

Our thanks also to the wonderful artists for donating their time.

Our Fundraisers

There are many passionate and energetic members of the community who act on our behalf to raise awareness and much needed funds.

ASX Thomson Reuters Charity Foundation

The Institute has yet again been selected as one of the recipient charities from this year's fundraising. The Foundation raises funds for a large number of charities through a sailing regatta, a golf day, a gala black tie event and a raffle.

Warren Media Race Day

Thanks to Mark Warren of Warren Media, for raising funds for the Institute at the Warren Media Race Day at Hawkesbury Races. It was a great day, generated plenty of radio publicity and all the donated funds went directly to schizophrenia research.

The Jack Gibson Cup

Institute founding member, Jack Gibson, is commemorated each year with the Jack Gibson Cup, a trophy match played by the Parramatta Eels and the Sydney Roosters. The Institute has been chosen as the community partner for this annual event and NRL players Ben Smith and Nate Myles spoke on the importance of schizophrenia at a media conference which resulted in great public awareness with TV, print, radio and web coverage. The Institute's ambassador, Miss World Australia, Sophie Lavers, spoke to the sell out crowd of 20,000 at Parramatta Stadium in July.

Thanks to Mark Warren of Warren Media who enthused the crowd on the day, to Medibank Health Solutions for supporting our SMS campaign, to Accor Hospitality for sponsoring a suite, to Roosters sponsor Steggles for its generous donation and to the Gibson family who attended on the day.

Our thanks to all our supporters – it is so good to have you on this journey with us and we are grateful for your commitment.

Major Partners and Supporters

Government

NSW HEALTH

Australian Government
National Health and Medical Research Council

NSW GOVERNMENT Industry & Investment

Foundations and Trusts

PRATT FOUNDATION

thynereid FOUNDATION

HUNT FAMILY FOUNDATION

THE IAN POTTER FOUNDATION

ANZ Trustees

Corporate

Macquarie Group Foundation
MACQUARIE

FSC

RAMSAY HEALTH CARE

JANSSEN-CILAG

Lundbeck

Abigroup
Constructing Australia's Future

PAYNTER DIXON
HEALTH & AGEING BUILDING SUCCESS

Thank you to all our supporters.

For privacy reasons we have chosen not to list all our individual supporters but would like to take this opportunity to thank and acknowledge these kind people who have given us gifts – this generosity and commitment of the community is vital to our ongoing success.

Patron

Life Governors

Judy Gibson

Don McDonald AM

SwearStop Ambassadors

Kofi Danning

Mark Geyer

Eric Grothe

Sophie Lavers, Miss World Australia

Nate Myles

Ben O'Donoghue

Ben Ross

Ricky Stuart

Ray Warren

Glenn Wheeler

Government

NSW Health

National Health & Medical Research Council (NHMRC)

NSW Government Industry & Investment

Foundations, Trusts and Grants

ANZ Trustees Foundation
– The Ron & Peggy Bell Family Legacy

ASX Thomson Reuters Charity Foundation

Ian Potter Foundation

Macquarie Group Foundation

Merrett Foundation managed by Perpetual

Sylvia & Charles Viertel Foundation managed by ANZ Trustees

The Baxter Charitable Foundation managed by Perpetual

The Pratt Foundation

Thyne Reid Foundation

The Mabel and Franklyn Barrett Trust and The Elizabeth Pagan Trust managed by Trust Company Ltd

Patient Ambassadors

Richard Schweizer

Kathleen Smith

Corporate

Aberdeen Asset Management

Abigroup Limited

AMP Foundation

Barclays Global Investors

Brookfield Multiplex Limited

BT Financial Group

Capital Landscape Contractors P/L

Colonial First State

Dencona Pty Ltd

Financial Services Council

Fortis Investments

Lundbeck Australia Pty Ltd

Medibank Health Solutions

Mid West Concrete

MLC

Macquarie Group

Northside Clinic

Paynter Dixon

QBE Insurance Group

Ramsay Health Care

Swiss RE

Tower Australia

W.A. Ropes & Hardware

Warren Media

Pro Bono

Chubb Insurance Company of Australia Limited

KPMG

Ogilvy PR Health

Photolibrary

PIPC Pty Ltd

RedBalloon

Robert Oatley Wines

Sony Music Entertainment

Sydney FC

Usher Photography

Workplace Giving

Australian Charities Fund

Charities Aid Foundation (CAF)

Deutsche Bank

Insurance Australia Group (IAG)

The Royal Bank of Scotland N.V.

Community Groups

ARAFMI Mental health Carers & Friends Association (WA) Inc

Baringa Private Hospital

CFMEU NSW Branch

Hornsby Ku-Ring-Gai Assn Action on Mental Health

Kurri Kurri Lions Club Inc

Lions Club of Scone

New South Wales Nurses' Association

Northern Beaches Mental Health Support Group

NSW Down to Earth Club

Rotary Club of North Sydney, Inc

Rotary Club of Sydney CBD

Shoalhaven Schizophrenia Fellowship

Thanks to Bruce Usher for providing the majority of the photography for this annual report.

Thanks to Markus Dilectite for his support with the Institute's websites www.dilectite.com.au


MEDICAL

Organisation

The abridged consolidated financial position, accounts and financial performance for the year ended 30 June 2010 have been prepared from audited financial statements and passed by the Board of Directors, who are responsible for the presentation of those financial statements and the information they contain. For a better understanding of the scope of the audit by KPMG, this report should be read in conjunction with KPMG's report on the abridged financial statements.

This report can be obtained from:

Schizophrenia Research Institute
405 Liverpool Street
Darlinghurst 2010

Financial Performance

for the year ended 30 June 2010

Income	2010	2009
Fundraising	798,191	783,891
External grant income	4,345,926	4,186,509
Investment income	39,411	25,388
Sundry income	64,392	91,787
Total	5,247,920	5,087,575
Less Expenses		
Fundraising, Marketing & Communications	382,385	345,313
Administration	216,936	221,871
Investment	12,464	4,343
Research	4,498,714	3,902,451
Total	5,110,499	4,473,978
Net Surplus(loss)	137,421	613,597
Opening retained earnings	1,935,539	1,311,740
Transfer to retained earnings	137,421	613,597
Available for sale reserve	19,680	10,202
Closing retained earnings	2,092,640	1,935,539
Retained earnings	2,092,640	1,935,539

*Fundraising includes direct mail appeals, corporate partnerships, major gifts and community. External grants includes government, peer reviewed grants, foundations and major campaign agreements.

Scientific Panels and Members

The following list contains all Schizophrenia Research Institute employees and funded positions, scientific affiliates and supported students.

Employees & Funded Positions

Ms Adnana Aliskovic
Schizophrenia Research Institute
& University of Newcastle

Ms Katherine Allen
Schizophrenia Research Institute
Neuroscience Research Australia
& University of New South Wales

Ms Julie Barlow
Schizophrenia Research Institute

Ms Inara Bebris
Schizophrenia Research Institute,
Neuroscience Research Australia
& University of New South Wales

Ms Bryarne Bielefeld
Schizophrenia Research Institute
& University of Queensland

Mr Jason Bridge
Schizophrenia Research Institute
& University of Newcastle

Dr Murray Cairns
Schizophrenia Research Institute
& University of Newcastle

Professor Vaughan Carr
Schizophrenia Research Institute
& University of New South Wales

Ms Rose Chesworth
Schizophrenia Research Institute
& Neuroscience Research Australia

Ms Janelle Collins-Langworthy
Schizophrenia Research Institute
& University of Newcastle

Ms Helen Connealy
Schizophrenia Research Institute

Mr Gavin Cooper
Schizophrenia Research Institute
& University of Newcastle

Dr Victoria Dalton
Schizophrenia Research Institute
& Australian Nuclear Science and
Technology Organisation

Ms Megan Diallo
Schizophrenia Research Institute

Ms Sandra Diminic
Schizophrenia Research Institute
& University of Queensland

Ms Jyoti Doshi
Schizophrenia Research Institute
& University of Western Australia

Mr Daren Draganic
Schizophrenia Research Institute

Dr Teresa du Bois
Schizophrenia Research Institute
& University of Wollongong

Ms Liesl Duffy
Schizophrenia Research Institute

Mr Tim Ehlkes
Schizophrenia Research Institute
& University of Newcastle

Ms Rickie-Leigh Elliot
Schizophrenia Research Institute
& University of Newcastle

Ms Cheryl Filippich
Schizophrenia Research Institute
& Queensland Brain Institute

Dr Elisabeth Frank
Schizophrenia Research Institute
& University of Wollongong

Dr Samantha Fung
Schizophrenia Research Institute,
Neuroscience Research Australia
& University of New South Wales

Ms Sarah Gale
Schizophrenia Research Institute
& University of Melbourne

Ms Juliette Gillies
Schizophrenia Research Institute
& University of Sydney

Ms Mei Han
Schizophrenia Research Institute
& University of Wollongong

Ms Felicity Harris
Schizophrenia Research Institute
& University of New South Wales

Ms Janette Howell
Schizophrenia Research Institute
& University of Newcastle

Dr Dipesh Joshi
Schizophrenia Research Institute,
Neuroscience Research Australia
& University of New South Wales

Dr Kristin Laurens
Schizophrenia Research Institute
& University of New South Wales

Ms Yen Lim
Schizophrenia Research Institute
& St Vincent's Hospital

Ms Kelly Liu
Schizophrenia Research Institute
& University of Wollongong

Mr Warren Logge
Schizophrenia Research Institute
& Neuroscience Research Australia

Dr Leonora Long
Schizophrenia Research Institute,
Neuroscience Research Australia
& University of New South Wales

Dr Carmel Loughland
Schizophrenia Research Institute
& University of Newcastle

Ms Danielle Lowe
Schizophrenia Research Institute
& University of Western Australia

Ms Sandra Matheson
Schizophrenia Research Institute
& St Vincent's Hospital

Ms Kathryn McCabe
Schizophrenia Research Institute

Mr Jonathan McGuire
Schizophrenia Research Institute

Ms Antonia Merritt
Schizophrenia Research Institute
& University of Melbourne

Dr Linda Miller
Schizophrenia Research Institute,
Neuroscience Research Australia
& University of New South Wales

Dr Elizabeth Moore
Schizophrenia Research Institute
& University of New South Wales

Ms Loretta Moore
Schizophrenia Research Institute,
Neuroscience Research Australia
& University of New South Wales

Dr Richard Morris
Schizophrenia Research Institute,
Neuroscience Research Australia &
University of New South Wales

Ms Tamo Nakamura
Schizophrenia Research Institute
& University of Newcastle

Dr Aslam Nasir
Schizophrenia Research Institute
& University of Newcastle

Ms Hayley Ndeira
Schizophrenia Research Institute

Ms Sharne Nicholls
Schizophrenia Research Institute

Ms Emma Nugent-Cleary-Fox
Schizophrenia Research Institute
& University of Newcastle

Ms Michelle Poole
Schizophrenia Research Institute
& University of Newcastle

Ms Siobhan Quinn
Schizophrenia Research Institute
& St Vincent's Hospital

Mr Paul Rasser
Schizophrenia Research Institute &
University of Newcastle

Ms Jaci Richards
Schizophrenia Research Institute
& University of Newcastle

Ms Debora Rothmond
Schizophrenia Research Institute,
Neuroscience Research Australia
& University of New South Wales

Ms Alice Rothwell
Schizophrenia Research Institute
Neuroscience Research Australia
& University of New South Wales

Ms Alana Shepherd
Schizophrenia Research Institute
& St Vincent's Hospital

Ms Julia Stevens
Schizophrenia Research Institute
& University of Sydney

Ms Anna Stiller
Schizophrenia Research Institute
& University of Queensland

Ms Nina Sundqvist
Schizophrenia Research Institute
& University of Sydney

Mr Yash Tiwari
Schizophrenia Research Institute,
Neuroscience Research Australia
& University of New South Wales

Ms Melissa Tooney
Schizophrenia Research Institute
& University of Newcastle

Ms Shan Tsai
Schizophrenia Research Institute,
Neuroscience Research Australia
& University of New South Wales

Mr Alan Tunbridge
Schizophrenia Research Institute

Ms Diana Turner
Schizophrenia Research Institute,
Neuroscience Research Australia
& University of New South Wales

Dr Ans Vercammen
Schizophrenia Research Institute,
Neuroscience Research Australia
& University of New South Wales

Dr Mathieu Verdurand
Schizophrenia Research Institute
& Australian Nuclear Science and
Technology Organisation

Professor Cyndi Shannon Weickert
Macquarie Group Foundation Chair
of Schizophrenia Research

Ms Sarah West
Schizophrenia Research Institute
& University of Sydney

Ms Rebecca Wilson
Schizophrenia Research Institute
& University of Melbourne

Dr Jenny Wong
Schizophrenia Research Institute,
Neuroscience Research Australia
& University of New South Wales

Mr Heng Woon
Schizophrenia Research Institute,
Neuroscience Research Australia
& University of New South Wales

SCIENTIFIC PANELS AND MEMBERS

Scientific Affiliates

Ms Joanne Allen
University of Newcastle

Dr Jonathon Arnold
University of Sydney

Dr Rebbekah Atkinson
University of Newcastle

Ms Lisa Azizi
University of Sydney

Dr Jo Badcock
University of Western Australia

Associate Professor Amanda Baker
University of Newcastle

Dr Nikola Bowden
University of Newcastle

Dr Michael Breakspear
University of New South Wales

Dr Bill Budd
University of Newcastle

Dr Linda Campbell
University of Newcastle

Professor Stanley Catts
University of Queensland

Dr Vibeke Catts
University of Queensland

Associate Professor Loris Chahl
University of Newcastle

Professor Helen Christensen
Australian National University

Dr Martin Cohen
University of Newcastle

Dr Irina Dedova
University of Western Sydney

Dr Chao Deng
University of Wollongong

Dr Teresa du Bois
University of Wollongong

Associate Professor Jo Duflou
NSW Department of Forensic Medicine

Dr Francesca Fernandez-Enright
University of Wollongong

Dr Allison Fox
University of Western Australia

Dr Ross Fulham
University of Newcastle

Dr Janice Fullerton
Neuroscience Research Australia

Ms Therese Garrick
University of Sydney

Dr Melissa Green
University of New South Wales

Professor Clive Harper
University of Sydney

Dr Anthony Harris
Westmead Hospital

Dr Julie Henry
University of New South Wales

Professor Frans Henskens
University of Newcastle

Associate Professor Herbert Herzog
Garvan Institute of Medical Research

Dr Tina Hinton
University of Sydney

Dr Deborah Hodgson
University of Newcastle

Ms Sarah Howell
University of Western Australia

Professor Xu-Feng Huang
University of Wollongong

Professor Assen Jablensky
University of Western Australia

Professor Graham Johnston
University of Sydney

Dr Linda Kader
Sunshine Hospital

Dr Luba Kalaydjieva
University of Western Australia

Dr Frini Karayanidis
University of Newcastle

Dr Tim Karl
Neuroscience Research Australia

Professor Simon Killcross
University of New South Wales

Professor Jillian Kril
University of Sydney

Dr John Kwok
Neuroscience Research Australia

Associate Professor Robyn Langdon
Macquarie University

Dr Matthew Large
Prince of Wales Hospital

Professor Rhoshel Lenroot
Neuroscience Research Australia

Mr Terry Lewin
University of Newcastle

Dr Gin Malhi
University of Sydney

Dr Pamela Marsh
Macquarie University

Associate Professor Skye McDonald
University of New South Wales

Professor Patricia Michie
University of Newcastle

Associate Professor Vera Morgan
University of Western Australia

Professor Bryan Mowry
Queensland Centre for Mental Health Research

Dr Kelly Newell
University of Wollongong

Dr Penny Newson
University of Newcastle

Dr Olav Nielssen
St Vincent's Hospital

Dr Georgina Paulik
Bondi Junction Community Health Centre

Dr Grant Sara
Mental Health and Drug
and Alcohol Office

Dr Maria Sarris
University of New South Wales

Associate Professor Ulrich Schall
University of Newcastle

Professor Peter Schofield
Neuroscience Research Australia

Professor Rodney Scott
Hunter Area Pathology Service

Dr Marc Seal
Melbourne Neuropsychiatry Centre

Ms Donna Sheedy
University of Sydney

Dr Glen Smith
Macquarie University

Dr Janette Smith
University of Newcastle

Dr Nadia Solowij
University of Wollongong

Dr Tirupati Srinivasan
University of Newcastle

Dr Helen Stain
Centre for Rural and Remote Mental Health

Dr Renate Thienel
Centre for Rural and Remote Mental Health

Dr Juanita Todd
University of Newcastle

Dr Paul Tooney
University of Newcastle

Associate Professor Jamie Vandenberg
Victor Chang Cardiac Research Institute

Dr Bryce Vissel
Garvan Institute of Medical Research

Ms Hongquin Wang
Australia Nuclear Science
and Technology Organisation

Dr Flavie Waters
University of Western Australia

Dr Thomas Weickert
Neuroscience Research Australia

Associate Professor Lea Williams
Westmead Hospital

Dr Katerina Zavitsanou
Australia Nuclear Science
and Technology Organisation

Supported Students

Ms Deborah Arguedas
Macquarie University

Mr Tim Bakas
University of Sydney

Ms Alison Beck
University of Newcastle

Ms Natalie Beveridge
University of Newcastle

Mr William Body
University of Wollongong

Ms Sonja Bouwer
University of Western Australia

Mr Adam Carroll
University of Newcastle

Ms Mico Chan
University of New South Wales

Ms Saruchi Chhabra
University of Western Australia

Ms Amy Dawson
University of Wollongong

Ms Rickie-Leigh Elliot
University of Newcastle

Ms Sacha Filia
Monash University

Mr Stuart Fillman
University of New South Wales

Ms Erin Gardiner
University of Newcastle

Ms Belinda Goldie
University of Newcastle

Ms Mei Han
University of Wollongong

Ms Mary-Claire Hanlon
University of Newcastle

Mr Ian Harding
University of Melbourne

Ms Juliane Heide
University of New South Wales

Mr Matthew Hughes
University of Newcastle

Dr Sharna Jamadar
University of Newcastle

Ms Lily Knechtel
University of Newcastle

Dr Nishantha Kumarasinghe
University of Newcastle

Ms Merribel Kyaw
University of New South Wales

Ms Susan Liersch
University of Wollongong

Ms Sandra Matheson
University of New South Wales

Ms Kathryn McCabe
University of Newcastle

SCIENTIFIC PANELS AND MEMBERS

Supported Students (cont'd)

Ms Sharon Monterrubio
University of Wollongong

Ms Tia Morosin
University of Wollongong

Mr Daniel Mullens
University of Newcastle

Ms Margaret Nelson
University of Melbourne

Mr Rajesh Pathy
University of Wollongong

Ms Kristy Payne
Centre for Rural and Remote Mental Health

Ms Yael Perry
University of New South Wales

Ms Colleen Respondek
University of Wollongong

Ms Dominique Rich
University of Newcastle

Ms Debora Rothmond
University of New South Wales

Ms Danielle Santarelli
University of Newcastle

Ms Alana Shepherd
University of New South Wales

Mr Duncan Sinclair
University of New South Wales

Ms Ketrina Sly
University of Newcastle

Ms Gemma Smith
University of New South Wales

Ms Peta Snikeris
University of Wollongong

Mr Vaidy Swaminathan
University of Melbourne

Ms Sheena Takacs
University of Wollongong

Ms Louise Thornton
University of Newcastle

Mr Yash Tiwari
University of New South Wales

Mr Pradeep Uthayachandran
University of New South Wales

Ms Kristen Vallender
University of Newcastle

Mr Cameron Warren
University of Wollongong

Ms Katrina Weston Green
University of Wollongong

Mr Yang Yang
University of New South Wales

Schizophrenia Research Institute – Supported Publications

The following publications were supported either via direct funding or access to Institute-supported infrastructure.

Bailey P, Henry J. Separating component processes of theory of mind in schizophrenia. *British Journal of Clinical Psychology 2010*; 49: 43-52.

Baker A, Richmond R, Lewin T, Kay-Lambkin F. Cigarette smoking and psychosis: naturalistic follow up 4 years after an intervention trial. *Australian and New Zealand Journal of Psychiatry 2010*; 44: 342-350.

Beveridge N, Tooney P, Carroll A, Tran N, Cairns M. Down-regulation of miR-17 family expression in response to retinoic acid induced neuronal differentiation. *Cellular Signalling 2009*; 21: 1837-1845.

Boy J, Schmidt T, Schumann U, Grasshoff U, Unser S, Holzmann C, Schmitt I, Karl T, Laccone F, Wolburg H, Ibrahim S, and Riess O. A transgenic mouse model of spinocerebellar ataxia type 3 resembling late disease onset and gender-specific instability of CAG repeats. *Neurobiology of Disease 2010;* 37: 284-293.

Cairns M, Carland M, McFadyen D, Denny W, Murray V. The DNA sequence selectivity of maltolato-containing cisplatin analogues in purified plasmid DNA and in intact human cells. *Journal of Inorganic Biochemistry 2009*; 103: 1151-1155.

Cairns M, Thomas T, Beltran C, Tillett D. Primer fabrication using polymerase mediated oligonucleotide synthesis. *BMC Genomics 2009*; 10: 344.

Campbell L, McCabe K, Leadbeater K, Schall U, Loughland C, Rich D. Visual scanning of faces in 22q11.2 deletion syndrome: *Attention to the mouth or the eyes? Psychiatry Research 2010*; 177: 211-215.

Carr V. Beauty and belief. William James and the aesthetics of delusions in schizophrenia. *Cognitive Neuropsychiatry 2010*; 11: 1-21.

Catts S, Evans R, O'Toole B, Carr V, Lewin T, Neil A, Harris M, Frost A, Crissman B, Eadie K. Is a national framework for implementing early psychosis services necessary? Results of a survey of Australian mental health service directors. *Early Intervention in Psychiatry 2010*; 4: 25-30.

Chen J, Huang XF. The PI3K/Akt pathway may play a key role in social isolation-caused schizophrenia (letter). *Synapse 2010*; 63: 476-83.

Choi KH, Zepp ME, Wiggs B, Shannon Weickert C, Webster MJ. Expression profiles of schizophrenia susceptibility genes during human prefrontal cortical development. *Journal of Psychiatry and Neuroscience 2009*; 34: 450-458.

Cox M, Cairns M, Gandhi M, Carroll A, Moscovis S, Stewart G, Broadley S, Scott R, Booth D, Lechner-Scott J, ANZgene Multiple Sclerosis Genetics Consortium. MicroRNAs miR-17 and miR-20a inhibit T cell activation genes and are under-expressed in ms whole blood. *PLoSOne 2010*; 5: e12132.

Deng C, Kang K, Wang Q, Huang XF. Serotonin 2A receptor and its association with the pathology of schizophrenia (letter). *Progress in Neuropsychopharmacology and Biological Psychiatry 2009*; 33: 1585-1586.

Deng C, Weston-Green K, Huang XF. The role of histaminergic H1 and H3 receptors in food intake: A mechanism for antipsychotic-induced weight gain? *Progress in Neuropsychopharmacology and Biological Psychiatry 2010*; 34: 1-4.

Duncan C, Schofield P, Weickert CS. Kv channel interacting protein 3 expression and regulation by haloperidol in midbrain dopaminergic neurons. *Brain Research 2009*; 1304: 1-13.

Duncan C, Webster MJ, Rothmond D, Bahn S, Elashoff M, Shannon Weickert C. Prefrontal GABAA receptor alpha subunit expression in normal postnatal human development and schizophrenia. *Journal of Psychiatric Research 2010*; 44: 673-681.

Frisoni G, Prestia A, Adorni A, Rasser P, Cotelli M, Soricelli A, Bonetti M, Geroldi C, Giannakopoulos P, Thompson P. In vivo neuropathology of cortical changes in elderly persons with schizophrenia. *Biological Psychiatry 2009*; 66: 578-585.

Frisoni G, Prestia A, Rasser P, Bonetti M, Thompson P. In vivo mapping of incremental cortical atrophy from incipient to overt Alzheimer's disease. *Journal of Neurology 2009*; 256: 916-924.

Garrick T, Sundqvist N, Dobbins T, Azizi L, Harper C. Factors that influence decisions by families to donate brain tissue for medical research. *Cell and Tissue Banking 2009*; 10: 309-315.

Glaw X, Garrick T, Terwee P, Patching J, Blake H, Harper C. Brain donation: who and why? *Cell Tissue Bank 2009*; 10: 241-246.

Han M, Huang XF and Deng C. Aripiprazole differentially affects mesolimbic and nigrostriatal dopaminergic transmission: implications for long-term drug efficacy and low extrapyramidal side-effects. *International Journal of Neuropsychopharmacology 2009*; 12: 941-952.

Han M, Huang XF, du Bois T, Deng C. The effects of antipsychotic drugs administration on 5-HT1A receptor expression in the limbic system of the rat brain. *Neuroscience 2009*; 164: 1754-1763.

Henskens F, Loughland C, Aphale M, Paul T, Richards J, Carr V, Catts S, Jablensky A, Michie P, Mowry B, Pantelis C, Schall U, Scott R. IT support for the Australian Schizophrenia Research Bank. *Proceedings of the International Conference on Health Informatics (HealthInf 2009)*. In L. Azevedo & A. R. Londral, eds., Porto, Portugal: INSTICC Press, pp. 135-141, 2009, ISBN: 9789898111630

Huang XF, Chen JZ. Neuregulin 1, brain region specificity and PI3K/Akt in schizophrenia (Letter). *European Archives of Psychiatry and Clinical Neuroscience 2009*; 259:307-308.

Ishiguro H, Koga M, Horiuchi Y, Noguchi E, Morikawa M, Suzuki Y, Arai M, Niizato K, Iritani S, Itokawa M, Inada T, Iwata N, Ozaki N, Ujike H, Kunugi H, Sasaki T, Takahashi M, Watanabe Y, Someya T, Kakita A, Takahashi H, Nawa H, Arinami T. Supportive evidence for reduced expression of GNB1L in schizophrenia. *Schizophrenia Bulletin 2010*; 36: 756-765.

Jamadar S, Hughes M, Fulham R, Michie P, Karayanidis F. The spatial and temporal dynamics of anticipatory preparation and response inhibition in task-switching. *Neuroimage 2010*; 51: 432-449.

Jamadar S, Michie P, Karayanidis F. Compensatory mechanisms underlie intact task-switching performance in schizophrenia. *Neuropsychologia 2010*; 48: 1305-1323.

Jamadar S, Michie P, Karayanidis F. Sequence effects in cued task switching modulate response preparedness and repetition priming processes. *Psychophysiology 2010*; 47: 365-386.

Jamadar S, Provost A, Fulham W, Michie P, Karayanidis F. Multiple sources underlie ERP indices of task-switching. In W. Christensen, E. Schier, and J. Sutton (Eds.), ASCS09: Proceedings of the 9th Conference of the *Australasian Society for Cognitive Science, 2010*, pp. 154-161. Sydney: Macquarie Centre for Cognitive Science.

Kang K, Huang XF, Wang Q, Deng C. Decreased density of 5-HT2a receptors in the superior temporal gyrus in schizophrenia - a post-mortem study. *Progress in Neuropsychopharmacology and Biological Psychiatry 2009*; 33: 867-871.

Karl T, Chesworth R, Duffy L, Herzog H. Acoustic startle response and sensorimotor gating in a genetic mouse model for the Y1 receptor. *Neuropeptides 2010*; 44: 233-239.

Karl T, Chesworth R, Duffy L, Herzog H. Schizophrenia-relevant behaviours in a genetic mouse model for Y2 deficiency. *Behavioural Brain Research 2010*; 207: 437-440.

Kashem M, Sarker R, Des Etages H, Machaalani R, King N, McGregor I. Comparative proteomics in the corpus callosal sub-regions of postmortem human brain. *Neurochemistry International 2009*; 55: 483-490.

Kelly B, Stain H, Coleman C, Perkins D, Fragar L, Fuller J, Lewin T, Lyle D, Carr V, Wilson J, Beard J. Mental health and well-being in rural communities: the Australian Rural Mental Health Study. *Australian Journal of Rural Health 2010*; 18: 16-24.

Langdon R, Ward PB, Coltheart M. Reasoning anomalies associated with delusions in schizophrenia. *Schizophrenia Bulletin 2010*; 36; 321-330.

Langdon R. Ward P. Taking the perspective of the other contributes to awareness of illness in schizophrenia. *Schizophrenia Bulletin 2009*; 35: 1003-1011.

Lautenbach A, Budde A, Wrann CD, Teichmann B, Vieten G, Karl T, Nave H. Obesity and the associated mediators leptin, estrogen and IGF-I enhance the cell proliferation and early tumorigenesis of breast cancer cells. *Nutrition and Cancer 2009*; 61: 484-91.

Loughland C, Lawrence G, Allen J, Hunter M, Lewin T, Oud N, Carr V. Aggression and trauma experiences among carer-relatives of people with psychosis. *Social Psychiatry and Psychiatric Epidemiology 2009*; 44: 1031-1040.

Luberg K, Wong J, Shannon Weickert C, Timmusk T. Human TrkB gene: novel alternative transcripts, protein isoforms and expression pattern in the prefrontal cerebral cortex during postnatal development. *Journal of Neurochemistry 2010*; 113: 952-964.

Luquin N, Yu B, Trent R, Pamphlett R. DHPLC can be used to detect low-level mutations in amyotrophic lateral sclerosis. *Amyotrophic Lateral Sclerosis 2010*; 11: 76-82.

Marsh P, Green M, Russel T, McGuire J, Harris A, Coltheart M. Remediation of facial emotion recognition in schizophrenia: Functional predictors, generalizability, and durability. *American Journal of Psychiatric Rehabilitation 2010*; 13: 143–170.

Matheson S, Green M, Loo C, Carr V. Quality assessment and comparison of evidence for electroconvulsive therapy and repetitive transcranial magnetic stimulation for schizophrenia: *A systematic meta-review. Schizophrenia Research 2010*; 118: 201-210.

SUPPORTED PUBLICATIONS

Monoranu C, Apfelbacher M, Grunblatt E, Puppe B, Alafuzoff I, Ferrer I, Al-Saraj S, Keyvani K, Schmitt A, Falkai P, Schittenhelm J, Halliday G, Kril J, Harper C, McLean C, Riederer P, Roggendorf W. pH measurement as quality control on human post mortem brain tissue: a study of the BrainNet Europe consortium. *Neuropathology and Applied Neurobiology 2009*; 35: 329-37.

Morahan J, Yu B, Trent R, Pamphlett R. genome-wide analysis of brain DNA methylation identifies new candidate genes for sporadic amyotrophic lateral sclerosis. *Amyotrophic Lateral Sclerosis 2009*; 10: 418-429.

Morris RW, Fung S, Rothmond DA, Richards AB, Ward S, Noble P, Woodward R, Shannon Weickert C, Winslow J. Effects of testosterone on prepulse inhibition in male rhesus macaques during pubertal development. *Psychoneuroendocrinology 2010*; 35: 896-905.

Pamphlett R, Luquin N, McLean C, Kum Jew, S, Adams L. TDP-43 neuropathology is similar in sporadic amyotrophic lateral sclerosis with or without TDP-43 mutations (Letter). *Neuropathology and Applied Neurobiology 2009*; 35: 222-225.

Paulik G, Badcock J, Maybery M. Intentional cognitive control impairments in schizophrenia: Generalized or specific? *Journal of the International Neuropsychological Society 2009*; 15: 982-989.

Ridge J, Dodd P. Cortical NMDA receptor expression in human chronic alcoholism: influence of the TaqIA allele of ANKK1. *Neurochemical Research 2009*; 34: 1775-1782.

Russell T, Green M. The neuropsychology of social cognition: implications for psychiatric disorders. In Wood SJ, Allen NB, Pantelis C (Eds.), *The Neuropsychology of Mental Illness*. UK: Cambridge University Press.

Saravolac EG, Wong JP, Cairns MJ. Recent patents in antiviral siRNAs. *Recent Patents on Anti-infective Drug Discovery 2010*; 5: 44-57.

Shannon Weickert C, Sheedy D, Rothmond D, Dedova I, Fung S, Garrick T, Wong J, Harding A, Sivagnanansundaram S, Hunt C, Duncan C, Sundqvist N, Tsai S, Anand J, Draganic D, Harper C. Selection of reference gene expression in a schizophrenia brain cohort. *Australian and New Zealand Journal of Psychiatry 2010*; 44: 59-70.

Sokolova A, Hill M, Rahimi F, Warden L, Halliday G, Shepherd C. Monocyte chemoattractant protein-1 plays a dominant role in the chronic inflammation observed in Alzheimer's disease. *Brain Pathology 2009*; 19: 392-398.

Solowij N, Pesa N. Cognitive abnormalities and cannabis use. *Revista Brasileira de Psiquiatria 2010*; 32: S31-S40.

Thienel R, Kellermann T, Schall U, Voss B, Reske M, Halfter S, Sheldrick AJ, Radenbach K, Habel U, Shah NJ, Kircher T. Muscarinic antagonist effects on executive control of attention. *International Journal of Neuropsychopharmacology 2009*; 12, 1307-1317.

Thienel R, Voss B, Kellermann T, Reske M, Halfter S, Sheldrick AJ, Radenbach K, Habel U, Schneider F, Shah NJ, Schall U, Kircher T. Nicotinic antagonist effects on functional attention networks. *International Journal of Neuropsychopharmacology 2009*; 12: 1295-1305.

Thompson M, Shannon Weickert C, Wyatt E, Webster MJ. Decreased glutamic acid decarboxylase 67 mRNA expression in multiple brain areas of patients with schizophrenia and other mental disorders. *Journal of Psychiatric Research 2009*; 43: 970-977.

Todd J, Myers R, Pirillo R, Drysdale K. Neuropsychological correlates of auditory perceptual inference: A mismatch negativity (MMN) study. *Brain Research 2010*; 1310: 113-123.

van den Buuse, Wischhof L, Lee RX, Martin S, Karl T. Neuregulin 1 hypomorphic mutant mice: enhanced baseline locomotor activity but normal psychotropic drug-induced hyperlocomotion and prepulse inhibition regulation. *International Journal of Neuropsychopharmacology 2009*; 12: 1383-1393.

Wang J, Grucza R, Cruchaga C, Hinrichs A, Bertelsen S, Budde J, Fox L, Goldstein E, Reyes O, Saccone N, Saccone S, Xuei X, Bucholz K, Kuperman S, Nurnberger J Jr, Rice J, Schuckit M, Tischfield J, Hesselbrock V, Porjesz B, Edenberg H, Bierut L, Goate A. Genetic variation in the CHRNA5 gene affects mRNA levels and is associated with risk for alcohol dependence. *Molecular Psychiatry 2009*; 14: 501-510.

Watanabe H, Henriksson R, Ohnishi Y, Ohnishi Y, Harper C, Sheedy D, Garrick T, Nyberg F, Nestler E, Bakalkin G, Yakovleva T. FOSB proteins in the orbitofrontal and dorsolateral prefrontal cortices of human alcoholics. *Addiction Biology 2009*; 14: 294-7.

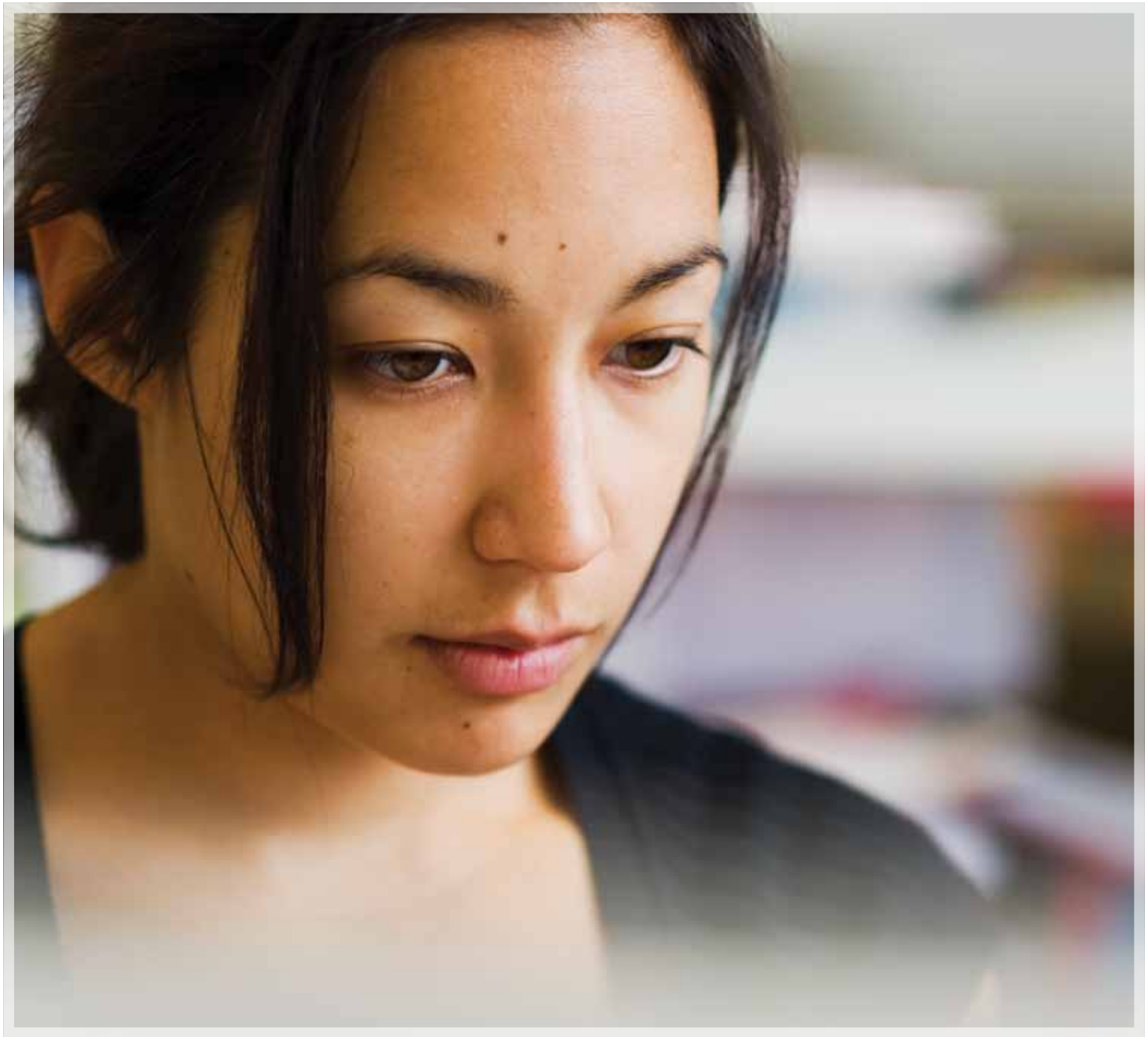
Weston-Green K, Huang XF, Deng C. Sensitivity of the female rat to Olanzapine-induced weight gain - Far from the clinic? (Letter). *Schizophrenia Research 2010*; 116: 299-300.

Wong J, Christopher M, Salazar A, Sun LQ, Viswanathan S, Wang M, Saravolac E, Cairns M. Broad-spectrum and virus-specific nucleic acid-based antivirals against influenza. *Frontiers in Bioscience 2010*; 2: 791-800.

Wong J, Shannon Weickert C. Transcriptional interaction of an estrogen receptor splice variant and ErbB4 suggest convergence in gene susceptibility pathways in schizophrenia. *Journal of Biological Chemistry 2009*; 284: 18824-18832.

Yucel M, Lubman D, Solowij N, Brewer W. Neurobiological and neuropsychological pathways into substance use and addictive behaviour. (Chapter) in Wood S, Allen N, Pantelis C (eds), 2009. The Neuropsychology of mental illness, Cambridge University Press, New York.

Zavitsanou K, Dalton V, Wang HQ, Newson P, Chahl L. Receptor changes in brain tissue of rats treated as neonates with capsaicin. *Journal of Chemical Neuroanatomy 2010*; 39: 248-255.



Research Grants

Administered by the Schizophrenia Research Institute

Arnold J, Karl T, McGregor I, Huang XF. Motion mensura moving tracking software for mouse behavioural testing. NHMRC Equipment Grant, 2009 ($2,000).

Carr V, Draganic D, Duffy L. Australasian Schizophrenia Conference 2010. Ian Potter Foundation, 2010 ($10,000).

Carr V, Draganic D, Duffy L. Australasian Schizophrenia Conference 2010. NSW Office of Science and Medical Research, 2010 ($10,000).

Carr V, Draganic D, Duffy L. Australasian Schizophrenia Conference 2010. Mental Health Council of Australia (Mental Health Conference Funding Program), 2010, ($10,000).

Carr V, Draganic D, Duffy L. Australian Schizophrenia Research Bank (Robotics Equipment). Ian Potter Foundation, 2010 ($45,000).

Carr V, Draganic D, Jablensky A. Technical Officer for the Australian Schizophrenia Research Bank. Ron and Peggy Bell Foundation, 2010-2012 ($36,000).

Carr V, Schall U, Scott R, Jablensky A, Mowry B, Michie P, Catts S, Henskens F, Pantelis C, Loughland C. Perkin-Elmer Janus Liquid Handling Workstation (Mini 4-Tip Platform). NHMRC Equipment Grant, 2009 ($7,162).

Dalton V. Adolescent rats show a reduced neurochemical reaction compared to adults in response to cannabinoid administration. Ian Potter Foundation Travel Grant, 2009 ($1,929).

Duffy L, Draganic D, Carr V. The Australian Schizophrenia Research Bank. Trust Company 2009 Grant, 2009-2010 ($30,000).

Administered by Host Institutions

Butler T, Schofield P, Greenberg D, Weatherburn D, Wilhelm K, Carr V, D'Este C, Jones A. Reducing impulsive behaviour in repeat violent offenders using a Selective Serotonin Reuptake Inhibitor. NHMRC Project Grant, 2010-2014 ($1,261,750).

Cairns M, Scott R, Tooney P, Rostas J, Brichta A. Molecular and cellular characterisation of schizophrenia associated dysfunction in microRNA biogenesis. NHMRC Project Grant, 2010-2014 ($478,500).

Cairns M, Wu J, Tooney P, Scott R. Analysis of schizophrenia-associated gene and microRNA signatures in purified CD4 and CD8 positive T cells. HMRI Youth Research Project Grant, 2009-2010 ($25,000).

Carr V, Michie P, Lenroot R. Longitudinal Child Health Study: Pilot Study. Australian Rotary Health Research Fund - Mental Health of Young Australians Grant, 2010 ($16,500).

Dedova I. Identifying the neuropathological mechanisms of antipsychotic drug-induced Parkinsonism in schizophrenia. University of Western Sydney Research Grant, 2010 ($21,900).

Frank E. Schizophrenia perturbs inflammation - challenging an animal model for schizophrenia. University of Wollongong URC Small Grant, 2009 ($15,500).

Fung S, Shannon Weickert C. Sex-steroid driven molecular development of the hippocampus in non-human primate adolescence. UNSW Early Career Researcher Grant. 2010 ($20,000).

Halliday G, Double K, Shannon Weickert C. Effect of Parkinson's disease and L-dopa therapy on neurogenesis. Parkinson's NSW Unity Walk Research Grant. 2009 ($50,000).

Han M. Understanding the role of neuregulin-1 genetic polymorphisms in patients with schizophrenia. NHMRC Australia-China Exchange Fellowship. 2010-2013 ($318,600).

Hodgson D, Nakamura T, Michie P, Todd J, Hunter M. Mismatch negativity (MMN) in a rodent model of schizophrenia. Centre for Brain and Mental Health Research, University of Newcastle, Summer Scholarship Program Research Projects, 2009-2010 ($1,000).

Hodgson DM, Nakamura T, Michie PT, Hunter M, Todd J. Memory-related endophenotypes in the two-hit model of schizophrenia. University of Newcastle Strategic Pilot Research Grant, 2010 ($19,873).

Hodgson DM, Nakamura T, Michie PT, Hunter M. Development of an animal model of schizophrenia-like endophenotype induced by early-life infection. Centre for Brain and Mental Health Research, University of Newcastle 2009 Publication Performance Grant, 2009 ($3,500).

Huang XF, Deng C, Newell K, Fernandez F. Molecular Pathology Infrastructure, Research Infrastructure Block Grant, 2009-2010, ($72,000).

Huang XF, Deng C. Schizophrenia: Prevention and treatment of atypical antipsychotic drug-induced obesity. NHMRC Project Grant, 2010-2014 ($399,250).

Karl T. Maternal infection: Part of the 'two-hit hypothesis' of schizophrenia. International Science Linkages - Science Academies Program, Australian Academy of Science, 2010-2011 ($7,600).

Karl T. Mechanisms and neuroplasticity of environmental enrichment. UNSW Goldstar Grant, 2010 ($40,000).

Karl T. Mouse housing, animal welfare and data reliability. Perpetual Trustees Grant, 2010 ($19,000).

Kelly B, Stain H, Lewin T, Carr V, Fragar L,Perkins D, Fuller J. Living in a rural community: A longitudinal study of the course and outcome of mental health and wellbeing. NHMRC Project Grant, 2010-2014 ($805,650).

McClean C, Harper C. National network of brain banks. NHMRC Enabling Grants, 2010-2014 ($2,500,000).

Schofield P, Fullerton J, Shannon Weickert C, Donald J. Sialyltransferase in the bipolar and schizophrenic brain: examining the role of a novel generalised susceptibility gene. NHMRC Project Grant, 2010-2014 ($494,500).

Shannon Weickert C, Garner B, Fullerton J. Neuregulin dependent neuronal migration and schizophrenia. NHMRC Project Grant, 2010-2013 ($289,000).

Solowij N. Do genetic polymorphisms underlie the propensity for cannabis to cause cognitive deficits, psychiatric symptoms and structural brain changes? University of Wollongong URC Small Grant, 2009 ($14,460).

Wong J. Postdoctoral Trainee Travel Award, Society for Neuroscience, 2009 ($2,600).

Research Students and Awards

Schizophrenia Research Institute Supported Degrees

PhD

Dr Sharna Jamadar, University of Newcastle, March 2010

Masters

Ms Alison Beck, University of Newcastle, October 2009

Honours

Mr Cameron Warren, University of Wollongong, December 2009

Ms Dominique Rich, University of Newcastle, December 2009

Ms Kristen Vallender, University of Newcastle, December 2009

Mr Rajesh Pathy, University of Wollongong, December 2009

Early Career Researcher Award

Dr Victoria Dalton
Schizophrenia Research Institute
& Australian Nuclear Science and Technology Organisation

Postgraduate Student Award

Ms Natalie Beveridge
University of Newcastle

Schizophrenia Research Institute

405 Liverpool Street
Darlinghurst NSW 2010
Australia

T 02 9295 8688
F 02 9295 8689
E contact@schizophreniaresearch.org.au

www.schizophreniaresearch.org.au

Design by Boheem
www.boheem.com.au