OUR MISSION

To discover the ways to better treat, prevent and cure schizophrenia.
Schizophrenia Research Institute Annual Report 2013

Change starts with ONE

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Schizophrenia Research Institute Annual Report 2013

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The overwhelming consensus in the schizophrenia community, which includes those who have the illness and those who care for them, as well as our scientists and researchers, is that change needs to happen. Whether it is finding a cure, improving current treatments or altering the wider community’s perception and understanding of this illness, the need for change has been an incredible motivator for us all this year.

When the institute first opened in the ‘90s there was a strong focus on brain research and a confidence about what could be achieved through neuroscience and genetic technologies. Since then we have made many significant discoveries that have advanced our understanding of schizophrenia considerably. Among these discoveries was that this illness is more complicated than was originally anticipated and as such the long-term goals of the Institute need to include a more immediate focus on delivering improvements to the lives of those with schizophrenia. We created a new strategic plan that will see us balance our long-term research goals of prevention and cure with more immediate tasks that will identify the needs of the schizophrenia community and focus on practical improvements, such as supported employment and finding ways to improve the uptake and use of psychosocial therapies. We are certain that this new direction will bring about improvements that will make a genuine difference.

When we review our activities of the past 12 months, we’re happy to say it has been a year of progress and achievement. Professor Xu-Feng Huang, who heads up the Wollongong research team, spearheaded a joint clinical trial with Chinese hospital, HuiLongGuan, which found that improving the glucose regulation in people with both schizophrenia and diabetes could improve their cognitive deficits. Preclinical studies, also led by Prof. Huang, have indicated that a compound found in green tea and one in fish oil could also be useful as adjunct treatments to reduce cognitive impairment. These findings have the potential to improve treatments and bring relief in the very near future, which we find to be incredibly encouraging.

Dr Melissa Green, who is based in Sydney, was successful in securing support from the Rotary Club of Sydney for the next three years, which will allow her to establish a social and neurocognitive remediation program for young people living with psychosis. This will operate out of St Vincent’s Hospital in Darlinghurst and provide immediate, practical assistance for those wanting to reintegrate with their social networks or re-enter the workforce.

In addition to excellence in research, the Institute also fulfils an important role in raising awareness of schizophrenia through various endeavours that involve the wider community. This year we refreshed the STOP for Schizophrenia campaign, which was previously known as Swearstop, and allowed participants to give up whatever they chose for a week or month. This broadened its appeal and introduced the Institute to many people for the first time.
We also held the first Sydney City Scramble, a team scavenger hunt that encompassed the streets of Sydney and drew in many young corporate teams. As a result the event expanded our supporter base into a relatively untapped sector for us. This will become an annual event and is likely to grow in popularity very quickly.

The third new fundraising initiative we developed for 2013 was the adventure trek along the Great Wall of China, which saw 11 supporters raise more than $50,000 for the Institute. This effort is astonishing and shows how passionate and keen people are to support schizophrenia research. We are so thankful to have people like this in our supporter base and are inspired by their actions.

These endeavours mean that we are well-placed to respond to the continuing challenges of searching for answers and further understanding the complexities of schizophrenia, and I want to acknowledge the exceptional work of all the scientists who have contributed to our achievements.

Despite the difficulties we face in a continuing era of financial strain we can report that this year we have an operating surplus of $800,000. We were successful in winning several large grants including one from eResearch funding body, NeCTAR, to support the continued growth of the Bank as well as a bequest that allowed us to put a substantial amount towards scholarships and student training. The NSW Ministry of Health also shared a large contribution with us as part of their Partnership Project.

Most of the surplus from this year is targeted to specific projects in the coming year, so while we celebrate the success of winning these wonderful funding opportunities, we are also mindful that we will need your continued support to ensure that our scientists can continue in their excellent work. It really only takes one fresh idea, one researcher, one donor to be the catalyst for incredible change and we hope you’ll remain part of that change in 2014.

Chris McDiven AM
Chairman
It only takes one discovery, one fresh understanding, to make a world of difference. Each of our scientists works towards this goal every day, thanks to the financial support offered by our donors and government and corporate sponsors.

While it is our long-standing aim to better understand the causes of schizophrenia, to take that understanding and apply it to creating better treatments, and ultimately to find a means to prevent or cure the illness, we have recently broadened the research focus of our strategic plan to conduct much more applied research and clinical treatment studies that will be of more immediate benefit to people with schizophrenia and their families here and now.

This shift in direction requires commitment, determination, and perseverance from our scientists, as well as the recruitment of new researchers, in order to make the discoveries and apply better treatments that will bring us closer to our goals. Headline-making breakthroughs are rare and hard won, and when they happen they are cause for celebration, but at a humbler level I believe it is more critical than ever to conduct pragmatic research that brings best existing evidence to bear more effectively in clinical practice and related services in order to improve people’s lives today, not in an uncertain future.

This year the work of our scientists has been reported in numerous respected peer-reviewed journals such as *Schizophrenia Research*, *PLOS One*, *Journal of Neuroscience* and *Frontiers of Cellular Neuroscience* as well as in the mainstream press and magazines such as *Asian Scientist*. The work of Dr Rebekah Atkinson, Prof. Pat Michie and Prof. Ulrich Schall, in particular caused a great deal of interest in the scientific community, publishing a highly cited paper in *Biological Psychiatry*. They have since been asked to contribute an in-depth review of mismatch negativity and P3a as markers for psychosis, for use in the wider scientific community.

Every five years we invite a team of external scientists to review the progress of our research and our performance as an Institute. The feedback from the independent review team this year was overwhelmingly positive about the quality and quantity of our research outcomes. The reviewers supported the changes to our strategic plan mentioned above, and provided helpful recommendations for our continued growth and development.
Our desire to incorporate more applied research into our endeavours has begun with the introduction of a new training scheme developed by our Newcastle researchers that aims to help medical practitioners communicate a diagnosis of schizophrenia in a more effective manner that recognises and supports patient and family needs. Dr Melissa Green’s investigations in improving facial emotion recognition through social cognitive remediation will be applied in a computer-based Brain Training initiative. These two new programs ensure that we are able to provide immediate, effective assistance to members of the schizophrenia community and their families, and help to improve social functioning in the day-to-day lives of people with psychosis.

In 2013 we improved the design and functionality of the Schizophrenia Library and received certification from The Health on the Net Foundation, an international body that assesses the reliability and credibility of information on health websites and upholds a strict standard of quality and ethics. This certification provides assurance that the information contained on our site is accurate and reliable. Work has also been completed on the Australian Schizophrenia Research Bank’s database, which will reduce workload and streamline many of the processes for researchers who access its data. It is an exciting accomplishment that should allow more efficient use of the database and increase the accessibility of the information stored.

I would like to offer my sincere thanks to all of the Institute’s donors for their continued support, and I gratefully acknowledge our Board members for the work they do in both raising support and promoting awareness of the need for schizophrenia research. By all of us joining together we are that much more effective in creating the change we wish to see – an end to the suffering caused by schizophrenia.

— Vaughan Carr

Chief Executive Officer
BOARDS MEMBERS

Chris McDiven AM
Chairman
Non-Executive Director
Currently Chairman, Chris joined the board in 2009. She is a Company Director and was formerly President of the NSW Kambala School Council, Director Association of Independent Schools (NSW), Chair of the International Women’s Democrat Union, Federal President of the Liberal Party of Australia, Liberal Party State President NSW, member of the organising committee International Conference of Political Parties. Other previous positions included President of the Liberal Federal Women’s Committee, and board member of the Menzies Research Centre, the Australian Sports Foundation, the Keep Australia Beautiful Council, the National Foundation of Australian Women, and the Powerhouse Museum Fundraising Committee.

(Chairman until October 2013)

Matthew Cullen
Deputy Chair
Non-Executive Director
Matthew Cullen joined the board in 2004. He is Group Executive 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.

Chad Barton
Chair of Finance Sub-Committee
Non-Executive Director
Chad Barton is the Chief Financial Officer at Salmat Limited. Chad previously held the position of Chief Financial Officer with Electronic Data Systems Corporation (EDS), a HP company, in Australia and New Zealand as well as CFO for EDS’s Global Financial Services practice. Prior to this, Chad was Commercial Director with SingTel Optus Limited and CFO for SunSystems Australia and New Zealand. Chad is a Chartered Accountant and has professional experience at Arthur Andersen.

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SCHIZOPHRENIA RESEARCH INSTITUTE ANNUAL REPORT 2015
Vaughan Carr
Chief Executive Officer

Executive Director

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

Anthony Harris
Non-Executive Director

Associate Professor in the Discipline of Psychiatry at the University of Sydney and the Clinical Director at the Brain Dynamics Centre, Westmead Millennium Institute at the University of Sydney. He is a senior staff specialist for the Western Sydney Local Health Network where he works in the Prevention Early Intervention and Recovery Service caring for young people with severe mental illnesses such as schizophrenia. Dr Harris is an active researcher examining the treatment, psychophysiology and neuroimaging of young people with psychosis and depression, cognitive remediation techniques and the development of innovative educational resources in mental health. He is the current President of the Schizophrenia Fellowship of New South Wales and is on the Board of the Mental Illness Fellowship of Australia.

(Red May, 2013)

Rita Mallia
Non-Executive Director

A board member since 2003, Rita Mallia is the President of the Construction Forestry Mining and Energy Union (NSW Branch) Construction and General Division. Prior to 2011, Rita was the Senior Legal Officer of the Union. Director of NSW Dust Disease Board. Director of the Asbestos Diseases Research Foundation, Director of United Super Pty Ltd and ACIRT Pty Ltd.
Norbert Schweizer

Non-Executive Director

Norbert Schweizer joined the Board in June 2011 and is the founding partner of Schweizer Kobras, Lawyers and Notaries and an accredited specialist in business law. He is a Life Member and former Chairman of the Silver Committee of the Royal NSW Institute for Deaf and Blind Children and a Board Member and former President of Emanuel Synagogue in Woollahra (of which he is a life governor). Norbert is a Member of the Dean’s Board of Advice of the Sydney Conservatorium of Music and a foundation director of the Swiss-Australia Chamber of Commerce and Industry. He is also a non-executive director of a number of companies in the electrical distribution and transmission and in the building services industries. (Elected as Chair, October 2013)

Cyndi Shannon Weickert

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.

Michael Visontay

Non-Executive Director

Michael Visontay joined the board in February 2010. He is Editor of Alumni Publications at the University of Sydney, Editor of Australian Author magazine and is a former Deputy Editor of the Sun Herald and Editorial Manager at the Sydney Morning Herald. He is highly regarded for his years in journalism and was the winner of the European Union Journalism Award in 2007. He has written three books and is also an occasional commentator on sport for the 2BL morning show.
Sheryl Weil
Non-Executive Director
Sheryl Weil is currently an Executive Director and the Global Head of Services & Operations within Macquarie Group Ltd’s Banking and Financial Services Group. She has been with Macquarie Group Ltd for 28 years. She is the Office Head – Macquarie Group Brisbane and Complaints Director for the Banking and Financial Services Group and has been a board member of the Macquarie Group Foundation for nine years. She is also the Executive sponsor and on the board for Women@BFS within Macquarie Group Ltd.
(Join date May 2013)

Previous board members
Peter Maher resigned 14/11/12
Alex Rivers resigned 1/5/13
Anne Mortimer resigned 1/5/13
Jill Wran resigned 26/6/13
Research Overview

The Schizophrenia Research Institute is the only Australian medical research institute solely dedicated to discovering ways to understand, better treat, prevent and cure schizophrenia.

The Institute was established by passionate scientists and parents of people with schizophrenia in 1996 as Australia’s first virtual medical research institute at a time when little research was being done into schizophrenia in NSW. The mission of the Institute is to understand, better treat, 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 agenda, has invested close to $4 million in the past year and has had numerous successes to date.
Developmental Neurobiology
The scientific study of the molecular and cellular basis of healthy and abnormal brain development.

Cognitive Neuroscience
The scientific study of the biological basis of cognitive functions with the aim of understanding the structure and function of the brain in health and disease.

Epidemiology and population health
The scientific study of the patterns of distribution of disease in populations, the identification of antecedents and risk factors, and the measurement of outcomes of treatment effects in whole populations.

Research Outcomes
Successful outcomes in research are demonstrated by publications in scientific journals, presentations at conferences and academic progression.

Over this year Institute support has contributed to 70 publications in peer-reviewed journals and Institute researchers have made 120 presentations at scientific conferences in Australia and internationally. Institute supported students were also awarded 61 research higher degrees (47 were Schizophrenia Research Institute-supported and 14 were Australian Schizophrenia Research Bank-supported) including 42 PhD, eight Masters degrees and 11 Honours degrees.

Research Partners
Universities, Institutes and Hospitals
The Institute has formal agreements with universities and institutes to conduct research at the following locations:

- **New South Wales**
  - Bloomfield Hospital
  - Garvan Institute
  - Hunter New England Area Health Service
  - Hunter Area Pathology Service
  - James Fletcher Hospital
  - Macquarie University
  - NSW Health Inform
  - Mental Health and Drug and Alcohol Office
  - The Mater Hospital
  - Neuroscience Research Australia
  - St Vincent’s Hospital
  - University of Sydney
  - University of NSW
  - University of Wollongong
  - University of Newcastle
  - Victor Chang Cardiac Research Institute
  - Westmead Hospital

- **Queensland**
  - University of Queensland and Queensland Centre for Mental Health Research

- **Victoria**
  - Melbourne Neuropsychiatry Centre
  - Mental Health Research Institute of Victoria
  - University of Melbourne

- **Western Australia**
  - Centre for Clinical Research on Neuropsychiatry
  - University of WA

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**Developmental neurobiology**
Professor Cyndi Shannon Weickert

**Epidemiology and Population Health**
Professor Vaughan Carr

**Cognitive Neuroscience**
Professor Ulrich Schall
“Treating diabetes in people with schizophrenia could have a substantial positive impact on their everyday life.”
Weight gain and poor memory may soon be a thing of the past for those on antipsychotic medication thanks to a joint clinical trial between the Institute and a hospital in China, and a separate preclinical trial in Wollongong.

Professor Xu-Feng Huang has overseen two major studies this year; one explored the possibility of using naturally-occurring compounds as an adjunctive treatment to counteract obesity associated with antipsychotic medication, and another investigated the link between schizophrenia and diabetes and how they might better be treated.

Pre-clinical studies conducted this year revealed that the compound teasaponin, which is found in green tea, and DHA, which can be found in fish oil, may prove beneficial in increasing satiety and reducing chronic brain inflammation, both of which are implicated in the causes of obesity, type II diabetes and cognitive impairment. It is hoped this research will lead to clinical trials in two to three years.

The second study, a partnership between Australia’s University of Wollongong and China’s Beijing HuiLongGuan Hospital and led by researcher Dr Mei Han, found that the prevention and treatment of diabetes in people with schizophrenia may lead to better cognitive functioning, especially in immediate memory and attention. This has the potential to improve daily life and restore skills that could assist in return to the workforce.

Diabetes has been reported to occur about two to four times more frequently in patients with schizophrenia than in the general population. As schizophrenia and diabetes are both associated with cognitive impairment, it was thought that patients with both diseases may suffer an increased rate and magnitude of cognitive deficits.

The study, which was published in the scientific journal PLoS One, found this to be accurate with indications that people with both schizophrenia and diabetes were more cognitively impaired in the areas of immediate memory and attention than people with schizophrenia alone and people with diabetes alone.

These findings indicate that the memory deficits found in schizophrenia could, in part, reflect disturbed glucose regulation, and that improvement of glucose metabolism could improve these deficits.

“A number of our previous studies have shown us that many atypical antipsychotics increase the likelihood of people with schizophrenia developing type II diabetes,” says Professor Xu-Feng Huang at the University of Wollongong. “What this study tells us is that treating diabetes in people with schizophrenia may improve their cognitive functioning, which could have a positive impact on their everyday life.”

Professor Xu-Feng Huang teaches in the School of Health Sciences at the University of Wollongong, is Deputy Executive Director at Illawarra Health and Medical Research Institute (IHMRI) and is Director of the Centre for Translational Neuroscience.
A major contribution from the Rotary Club of Sydney has enabled the set up of a “Brain Training” initiative for inpatients and outpatients of St Vincent’s Hospital, which will provide training in social cognitive and neurocognitive skills for people with schizophrenia and related diagnoses.
A $50,000 grant awarded to Associate Professor Melissa Green will, over the next three years, see a new service offered to patients of St Vincent’s Hospital to improve cognition and social skills, thanks to the Rotary Club of Sydney. The program will offer the psychosis community, both inpatient and outpatient services, the opportunity for clients to engage in computerised training programs, and will assist in the establishment of extended group-based programs that have been shown to improve cognition and social functioning in people with a psychotic illness. Many of these programs have been developed only in recent years as a result of novel social cognitive remediation research, some of which has been conducted by Institute-supported scientists over the past decade.

The neurocognitive remediation tools will teach practical skills such as focussing and sustaining attention, memory skills and working memory skills, which involves being able to hold multiple pieces of information in mind as you work towards achieving a goal,” explains Assoc. Prof. Green. Other skills include being able to correctly interpret facial expressions and understand how other people may be feeling, as well as understanding how life may appear from others’ perspectives – ‘stepping into other people’s shoes’. “Another common social cognitive problem for people with schizophrenia is presuming causes for events that are not logically possible, or which are simply biased,” says Assoc. Prof. Green. “A common error that a paranoid person can make is to assume someone else is to blame when something negative happens to them. So we’re training people to see all the alternative possibilities for those events and trying to move their thinking patterns out of that bias of blaming other people.”

The program will involve the use of new computer training programs, which often resemble entertaining games. Some of these have been created by Dr Pamela Marsh who, together with Assoc. Prof. Green, has previously demonstrated simple ways to remediate facial emotion perception deficits in people with schizophrenia by training attention to the relevant facial features. The Brain Training services, which will be launched in January 2014, will be available as part of in-patient treatment or on a drop-in basis for people referred by their case manager. “There will be computers available where people can access the training programs in their own time during its opening hours, which we expect will start slowly, offering services for a few afternoons each week,” explains Assoc. Prof. Green. “There will be assistance on hand if it is needed, but much of the training will be self-guided, which will build self-esteem once people realise that tasks can be achieved independently.”

“I’m really pleased that we’ll be able to use training materials that have been developed by Dr Marsh, which will have a substantial, positive impact on users,” says Assoc. Prof. Green. “This service will bring relief to so many people who need some basic assistance to improve their interpersonal and social skills, to increase their confidence so they can go on to study or get a job they really want.”
NEW TRAINING PROGRAM UNVEILED

“With the program we hope to give clinicians confidence in their ability to communicate a schizophrenia diagnosis and thus help to empower their patients.”

Dr Carmel Loughland
Our Newcastle researchers have identified a way to improve how the diagnosis of schizophrenia is communicated to patients and families.

A group of Newcastle-based scientists this year conducted a study to find out what were the current attitudes towards making a schizophrenia diagnosis within the mental health field and how information could best be communicated in order to meet the needs of people with schizophrenia and their families, as well as the needs of clinicians themselves.

The study found that slightly over half of the clinicians said they believed in giving patients a named diagnosis of schizophrenia, however most gave multiple reasons for not doing so in practice, which often centred on a concern for the patient's reaction to the diagnosis as well as not wanting to "label" or misdiagnose symptoms. This was in contrast with the desires of patients, who mostly wanted an explanation for their symptoms and felt that although it was difficult to receive a diagnosis of schizophrenia, it helped to legitimise their experiences.

“At the heart of things, clinicians want to communicate well,” says Dr Carmel Loughland, the manager of Australian Schizophrenia Research Bank. “Caring doctors want to do their very best, but they’re often not well trained in this particular area, and there is evidence that patients and carers want better communication. In order to achieve this we realised that we needed to create a training program, which was formed partly in consultation with health workers within the field of oncology, to allow clinicians to develop these skills.”

The program, called ComPsych, was developed by a large team of clinicians and researchers and includes training modules that cover communicating a schizophrenia diagnosis as well as the prognosis, with modules on treatment, recovery and family meetings currently being workshoped.

“The big message is that clinicians need to discuss a schizophrenia diagnosis with their patients, even though patients and families may grieve to hear this news,” says Associate Professor Loughland. “People need to know what’s happening to them and why. With the program we hope to give clinicians confidence in their ability to communicate a schizophrenia diagnosis and thus help to empower their patients with knowledge, and develop plans about what they can do next.”

The program is currently available for psychiatrists and psychiatry trainees in the Newcastle-Hunter region and will roll out to other mental health professionals early in 2014. With funding, the program hopes to be available state- and then nation-wide.
SCHIZOPHRENIA LIBRARY IS REDESIGNED AND RELAUNCHED

After a comprehensive overhaul, the Schizophrenia Library is now the largest free online resource that provides answers appropriate for clinicians and researchers, as well as people with schizophrenia, their families and carers.

The Schizophrenia Library provides an evidence base that has enormous potential to inform the kind of translational research that will have a positive impact on, and provide practical relief for, the schizophrenia community. This year it has undergone a major transformation that has resulted in an enhanced search functionality to improve the relevance of results, and a redesign so that it visually complements the Institute’s two other sites.

The Library covers more than 400 topics related to schizophrenia, each of which falls within nine basic categories:

- treatment
- diagnosis
- signs and symptoms
- risk factors
- course and outcome
- physical factors
- co-morbid conditions
- population perspectives
- information on families

The 400 topics contained within these categories are constantly being updated and added to whenever new evidence comes to light.

The information is sourced from well-conducted systematic reviews that have been published in reputable international journals. The Library staff critically evaluate all the reviews. They also conduct their own meta-analyses where there are gaps in the evidence, and highlight areas that need more research.

Each topic contains a basic fact sheet that provides an overview suitable for the layperson, as well as a technical table with more detailed information for clinicians, scientists or government policy makers. This information has been assessed and graded according to the quality and strength of the evidence.

The Library has also received certification from The Health on the Net Foundation Code of Conduct (HONcode) for medical and health websites, which assesses the reliability and credibility of information on health websites and upholds a strict standard of quality and ethics. This certification ensures that users know they can trust the information they find on the site.


Welcome to the World First Schizophrenia Library in Development

The Schizophrenia Library is a world first, free online one stop shop for a wide range of information on schizophrenia. The Library is the brainchild of Professor Vaughn Car, CEO of the Schizophrenia Research Institute and Professor of Psychiatry at the University of New South Wales. - view more >>>

Search the Schizophrenia Library

Change starts with ONE

SCHIZOPHRENIA RESEARCH INSTITUTE ANNUAL REPORT 2015
Rallying together friends, family and a tight-knit community saw long-time Institute supporter Daniel Imbert raise $19,000 for schizophrenia research.

When Daniel Imbert received an invitation to join the Institute’s Great Wall of China trek to help raise money for schizophrenia research, he was a little apprehensive about raising the required $3000. “It was something that was definitely outside my comfort zone,” he admits, but it was a challenge he was prepared to take on in the name of his son, who has schizophrenia.

A quick email fired off to friends and family as well as a few suppliers he knew through his job at the Revesby Workers’ Club resulted in donations and, importantly, a lot of encouragement. Not content to stop there, Daniel soon had the idea to get his brother’s band together to play at the club; and thus a huge night of revelry, Sega dancing, music and food was born.

“I went online and designed some tickets for the night,” Daniel explains. “I ordered 300 but I didn’t think I’d need them all. As it turns out we had more than 350 people turn up on the night, which was much more than I expected. I’d say about 95 percent of them were from the Mauritian community who heard about what I was planning and wanted to support the cause.”

Daniel also held an auction with items, such as signed Bulldogs and Sea Eagles jerseys, offered by colleagues who knew that schizophrenia research is an issue close to Daniel’s heart. “Before my son was diagnosed I knew nothing about schizophrenia,” Daniel says. “And it’s the same for a lot of other people, which is why it was important for me to make a small speech and share with the crowd the video that is on your website about why schizophrenia research is so important.”

The message touched a lot of hearts and the night saw Daniel raise more than $8,000, which, coupled with direct donations, became a total of $19,000 – far more than his original goal of $3000. “I feel really lucky to have the work I do and to know the people I know, which has allowed me to do this. I’m really proud that I’ve been able to contribute in this way,” he says.

The high of achieving such an impressive accomplishment was matched only by the elation Daniel felt at completing the 5-day trek along the wall, which included stretches of incredibly narrow, steep, demanding steps. “I’m so glad I had walking poles with me, they made the trek a lot easier on my knees,” he laughs. Daniel was joined by 10 other Institute supporters, each of whom had a personal connection to schizophrenia.

“On one particular day there were a lot of tears as we each shared our personal stories, it was quite moving. One of the scientists from Perth got up and spoke about the research she is doing and her reasons for doing the trek. It was so good to hear from her and know a bit more about her research.”

The bonds forged on the journey has meant that Daniel has kept in contact with many of his fellow trekkers on Facebook and is starting to build another tight-knit community around him, one that understands the numerous challenges that schizophrenia can bring to a family.
“These improvements are valuable not just to the researchers who access information stored at the Bank, but to the volunteers who participate in the research as well.”
The Australian Schizophrenia Research Bank (ASRB) continues to support local and international research by providing clinical and cognitive assessments, DNA samples and MRI brain scans to researchers.

The ASRB received a grant from the eResearch funding body NeCTAR to upgrade its research database and approached IT support agency Intersect to help make a new version of its software a reality. The changes were numerous and far-reaching and included improvements to several key areas of the database. “Essentially, the changes we’ve implemented will reduce workload and streamline many of the manual processes, so the improvements are valuable not just to the researchers who access information stored at the Bank, but to the volunteers who participate in the research as well,” says ASRB research assistant Jason Bridge.

It’s an exciting accomplishment that should allow more efficient use of the database and increase the benefit of the information stored within it. The website also now includes a section that details the projects that are currently seeking participants as well as descriptive statistics that provide an overview for researchers of the information that is currently available. These updates automatically occur nightly, which ensures that all information is current and accurate.

There are already plans for the next round of upgrades to the system, which should be in place by early 2014, and include creating a unique login for researchers as well as a user manual to explain how to utilise each area of the site.

- The ASRB database upgrade now:
  - Allows accurate tracking of volunteer participation in projects
  - Has an added online resource application system
  - Has an upgraded query builder to reflect almost any inclusion or exclusion criteria a researcher can come up with
  - Allows researchers to access approved data and research participant information
  - Simplifies the blood product management section
  - Stores and queries genetic data
  - Allows for bulk download of large MRI files
  - Includes information on projects that are recruiting volunteers
  - Includes a descriptive statistics section for researchers

This NeCTAR Project is an initiative of the Commonwealth, conducted as part of the Super Science Initiative and financed from the Education Investment Fund. The University of Melbourne is the lead agent, appointed by the Australian Government, Department of Industry, Innovation, Science, Research and Tertiary Education.
Under the guidance of Professor Ulrich Schall, this team is closely affiliated with the University of Newcastle and explores brain development and function in relation to schizophrenia and potential new ways to prevent its onset. The other area of interest is the Minds in Transition study, which explores why young people transition from an “at-risk” mental state to full-blown psychosis.
Psychotic symptoms in schizophrenia usually appear in late adolescence or early adulthood. While patients in later stages of schizophrenia often show deficits in reasoning and social understanding, it is unclear to what extent patients in the early stages of the illness are affected. To address this, Associate Professor Robyn Langdon and her colleagues conducted three studies examining different aspects of reasoning and social understanding.

The first study examined how patients in the early stages of psychosis reason and make decisions based on accumulating evidence. Associate Professor Langdon and her colleagues found that patients in early psychosis reached a decision more quickly (‘jumping to conclusions’) than healthy controls and many patients made decisions after seeing only the first piece of evidence. These tendencies are present in later stages of psychosis as well and seem to be particularly related to delusions. The fact that these tendencies are present across different stages of psychosis suggests that they may be related to a general predisposition to psychotic symptoms and contribute to the formation of delusions in some patients.

The second study examined how patients reason about the mental states of other people. This ability is important for social interactions and patients with schizophrenia often show deficits in this area. Associate Professor Langdon and her colleagues found that patients in early psychosis also had difficulties interpreting and reasoning about the mental states of other people. In addition, they found that language-based tests were less effective at detecting these difficulties. This may be because psychosis interferes with other language-based cognitive abilities and suggests that visual tests of social reasoning may be more helpful for identifying which early psychosis patients need social interventions.

The third study examined thinking processes and depression in early psychosis. Most individuals who are depressed tend to blame negative events on themselves and explain positive events as due to other people or events. As a result, many therapies for depression focus on correcting these tendencies. In early psychosis, however, Associate Professor Langdon and her colleagues found that patients who were depressed tended to explain all events – whether positive or negative – as due to themselves. This suggests that patients in early psychosis who become depressed may feel a need to regain a sense of personal control over their life events. If confirmed, the findings may have implications for the type of therapies offered for patients with early psychosis and depression.

Together, these three studies help us to understand the particular challenges faced by patients in the early stages of psychosis. The studies also help us to understand how psychosis develops over time and may lead to specialised interventions for reasoning and social understanding at different stages of the illness.

“These three studies help us to understand the challenges created by early psychosis and may lead to specialised interventions.”
Dr Rebbekah Atkinson is a Senior Research Assistant at the School of Medicine and Public Health, University of Newcastle.

Identifying potential markers for schizophrenia means that early detection of the illness, even before the first psychotic episode, may be possible, which could lead to much improved treatment outcomes. An already well-established indicator of the beginning stages of schizophrenia is reduced mismatch negativity (MMN), a reduction in the brain’s electrical response to changes in auditory cues, and P3a alterations, another electrical index of auditory detection.

A study led by Dr Rebbekah Atkinson assessed whether MMN and P3a were evident in people who were considered at ultra-high risk of developing schizophrenia as well as those who had experienced their first psychotic episode, as compared with healthy controls.

The study found that the individuals who were classified as being at-risk showed substantial deficits in auditory processing as measured by MMN, which is similar to findings in people with an established schizophrenia diagnosis. People who had experienced their first episode of psychosis also had reduced MMN when compared to healthy controls, which means that measuring MMN may be considered a sensitive marker of risk for schizophrenia.

It was also noted that P3a was reduced in at-risk individuals, but not in people who had already experienced a psychotic episode, and that MMN and P3a were unrelated in the first episode and ultra-high risk groups. This may indicate that these measures could be indices of two distinct deficits in the early stages of schizophrenia.

This evidence holds promise that reduced MMN and P3a may be helpful indicators of likelihood to transition from being at-risk to first episode psychosis. The benefits of early detection may include a reduction in the frequency or severity of schizophrenia, and preserving a person’s ability to benefit from medication.

New evidence points to potential markers that would identify people likely to transition from being at-risk to experiencing their first psychotic break.
Dr Nadia Solowij is a Schizophrenia Research Institute affiliated scientist, an ARC Future Fellow and Associate Professor at the University of Wollongong.

Cannabis use is considered a component cause of schizophrenia, combining with a range of other risk factors such as genetic vulnerability as well as social and environmental influences, to trigger psychosis in vulnerable people. Given the propensity for long-term cannabis exposure to induce cognitive impairment, psychotic-like symptoms and functional and structural brain changes that resemble schizophrenia, Dr Solowij and her team sought to investigate the mechanisms that lead to these symptoms.

Chronic cannabis use is thought to impair the functioning of a brain receptor known as N-methyl-D-aspartate (NMDAR), whose dysfunction has also been implicated in schizophrenia. One way of detecting the dysfunction of NMDARs is by measuring mismatch negativity (MMN), which assesses the brain’s electrical response to cue changes in auditory patterns.

Reduced MMN is associated with chronic cannabis use and is also evident in schizophrenia, though different reactions to changes in frequency, duration or intensity of sounds, are associated with different phases of schizophrenia as well as the extent of exposure to cannabis.

Smaller MMN responses are thought to reflect decreased sensory memory formation and abnormal perception or attention, and, in schizophrenia, they are associated with impaired daily functioning and cognitive performance. In schizophrenia reduced MMN to changes in sound duration is evident in the early stages of the disorder, while reduced MMN to changes in sound frequency is associated with chronic schizophrenia.

The study found that cannabis users displayed a reduced MMN to changes in frequency when compared with non-users. Long-term cannabis users also exhibited reduced duration MMN, which was correlated with an increased exposure to cannabis and increased psychotic-like symptoms during cannabis use. Short-term users showed a tendency to start using the drug at a younger age and use it more often, which was associated with greater psychotic-like symptoms.

The results show that while the pattern of MMN responses are different in cannabis users when compared to people with schizophrenia, they may share an underlying abnormality to do with the functioning of NMDARs, which, with further study could help us to understand what causes vulnerability to psychosis when cannabis is used.
DEVELOPMENTAL NEUROBIOLOGY

Developmental Neurobiology encompasses the Schizophrenia Research Lab in Randwick, headed by Professor Cyndi Shannon Weickert, as well as a group of scientists located at the University of Wollongong and University of Newcastle. Their aim is to better understand the interaction between environment and genetics and their involvement in the development of schizophrenia.
In a radical move, Institute scientist Dr Vibeke Catts this year published an article in *Frontiers in Cellular Neuroscience* calling for a change in the way the development of schizophrenia is viewed by biological researchers, stating that the timing of various changes in the brain may need to be revisited in order to more fully understand the processes that lead to the development of schizophrenia.

Dr Catts’ paper reviewed current normative neurodevelopmental studies and placed them in the context of what is known about schizophrenia neuropathology, believing that if more were understood about postnatal neurodevelopment, researchers may be better able to interpret grey matter changes and derailed developmental processes that could be underlying causes of psychosis.

“Our research raises the possibility that altered development during childhood and adolescence plays a part in the risk for schizophrenia, which challenges the view that the developmental defect occurring in schizophrenia is restricted to foetal life,” she says.

This notion requires schizophrenia researchers to appreciate more fully the extended timeframe over which normal human brain maturation occurs, from the prenatal stage, through birth, childhood and into adolescence and adulthood. This requires a better understanding of neuronal growth – from the birth of neurons through to movement of neurons into their final position in the adult brain as well as the establishment of communication and connections with other neurons within the brain. The extended timeframe defines the window of vulnerability to schizophrenia to include the time until illness onset in adolescence or early adulthood.

“By appreciating that adolescence is still a time of developmental change, it may be possible to find the means to stabilise these changes within adolescents at risk of psychotic disorders by targeting and preventing some, or all of the changes at the sub-cellular level,” says Dr Catts. “Any disruption in brain development may then only be transitory. Our hope is that we could prevent people from developing chronic schizophrenia.”

“Our hope is that we could prevent people from developing chronic schizophrenia.”
Dr Katerina Zavitsanou
is part of the Schizophrenia Research Lab in Randwick, NSW

In May of this year Dr Katerina Zavitsanou presented her work at the Australasian Schizophrenia Conference in Melbourne and as a result was awarded the Think Differently - Innovation in Schizophrenia Research Prize. The content of her talk was focussed on the link between maternal infection and schizophrenia and the role of a metabolic pathway that is regulated by the immune system.

Previous epidemiological studies have shown that maternal infection during pregnancy increases the risk of schizophrenia in offspring and that an inflammatory metabolic pathway known as the kynurenine pathway (KP) of tryptophan metabolism is altered in people with schizophrenia. Dr Zavitsanou and her team measured the KP metabolites in the offspring of rats that were prenatally exposed to an infection and found that the adolescent offspring showed deficits in KP metabolites.

During the study Dr Zavitsanou found that KP-related abnormalities existed in the adolescent offspring before any schizophrenia-like behaviours had started to show, so the next step in her research will be to ascertain how these alterations progress during the onset of those behaviours, or after the transition to psychosis-like behaviours.

An important finding was that using an anti-inflammatory to treat the KP abnormalities during the early stage of psychosis-like behaviours reversed the deficits that offspring exposed to maternal infection went on to develop in adulthood, suggesting that the KP may be a pharmacological target for early intervention.

The team also observed significant associations between blood and brain kynurenines suggesting that kynurenines in the periphery could be considered as biomarkers that might predict patients who are likely to respond to anti-inflammatory therapy in the early stages of the illness.

Using this information, Dr Zavitsanou’s future work will aim to identify new drug targets in the KP and develop a potential drug-based therapy for early intervention in schizophrenia, which could also better treat the symptoms that cause emotional, social and cognitive dysfunction.

An abstract associated with the study was also accepted for presentation at the Biological Psychiatry Australia Conference as the Highest Ranked Free Submission. A high honour, indeed.

“Dr Zavitsanou’s future work will aim to identify new drug targets and develop a potential drug-based therapy for early intervention in schizophrenia.”
A review of research papers by Wollongong researcher Natalie Matosin has turned up hope for a new class of therapeutic drugs that would treat not just the positive symptoms of schizophrenia but the negative and cognitive symptoms as well. The review examined the role and function of a receptor known as metabotropic glutamate receptor 5, or mGluR5, and its relationship to schizophrenia. The findings revealed a new direction for future studies that will be undertaken by the Institute-supported Newell lab in Wollongong.

“*If drugs were to bind to this receptor and improve its functioning, symptoms such as disordered thinking caused by poor sensory gating, depression, feelings of isolation and poor memory may be improved in people with schizophrenia.*”

Matosin’s journal article, which was published in *Neuroscience and Biobehavioural Reviews*, showed that when mGluR5 is knocked out or masked in animal models they display schizophrenia-like behaviours such as difficulties with learning, memory and sensory gating, which is the ability to filter out unnecessary information from the immediate environment. This may indicate that if drugs were to bind to this receptor and improve its functioning, symptoms such as disordered thinking caused by poor sensory gating, depression, feelings of isolation and poor memory may be improved in people with schizophrenia.

Natalie, who has been studying mGluR5 since her Honours year, says the possibility of using the receptor as a target for new therapeutic drugs is very interesting because current antipsychotics mainly affect the positive symptoms of the illness and do little for the negative and cognitive symptom profiles.

“Studies have shown that when you use mGluR5-targeting drugs in animal models of schizophrenia, both cognition and memory are improved,” she says.

The next step, Natalie explains, is for the Newell lab to investigate possible changes to mGluR5 in the schizophrenia brain and what might be the best way to manipulate the receptor with a suitable drug. Based on these findings the team will build support for the use of such a drug to help them reach the first stages of a clinical trial where people with schizophrenia could access them.

There are currently drugs targeting mGluR5 that have reached the clinical trial stage for treating depression, but not yet for schizophrenia. The research that is currently occurring in Wollongong, however, is building up a body of knowledge that will advance our understanding of this receptor’s role in schizophrenia and how we might develop treatments with decreased side effects that can improve all three symptom categories of schizophrenia.
Dr Katrina Green is a lecturer in the School of Medicine at the University of Wollongong and is part of the lab addressing antipsychotic metabolic side effects.

While often essential to the treatment of schizophrenia, second generation antipsychotics (SGAs) such as olanzapine and clozapine have a high risk of causing serious metabolic side-effects. SGAs can induce type II diabetes in 20-50 percent of treated individuals, which adversely affects that person’s quality of life, poses a major risk for medication non-compliance and exposes individuals to further serious health complications such as cardiovascular disease and stroke.

Dr Katrina Green’s research is focussed on improving antipsychotic drugs, including investigation into how the side effects of drug treatments can be eradicated. She has a particular interest in understanding and treating glucose disturbances that lead to diabetes side-effects of SGAs.

Glucose homeostasis involves many complex physiological, cellular and molecular interactions within the human body. A growing body of evidence has shown an important role for the acetylcholine muscarinic M3 receptor (M3R) in glucose regulation and insulin secretion. This year, the team in Wollongong published a review of studies that explored the receptor’s involvement in SGA-induced metabolic dysfunction. This report showed that antipsychotics with a high risk of diabetes side-effects block M3Rs, which would interfere with insulin secretion and cause glucose imbalance.

Literature suggests that the M3R is not involved in the development or progression of schizophrenia, indicating that the discovery of an antipsychotic medication that has minimal effects on this system would result in fewer glucose-related side effects without impact on the efficacy of the drug itself. The review of studies also suggested that the development of a drug that supports the functioning of the M3R to help stabilise the release of insulin could be a possible co-treatment option.

In addition, there has been growing excitement about the glucagon-like peptide-1 (GLP-1) system due to its ability to promote sustained weight loss and restore balance to blood glucose levels in people with type II diabetes. Interestingly, preliminary studies suggest that GLP-1 has antipsychotic-like properties and a protective effect on neuronal brain cells. Therefore, targeting this system may present a new and exciting opportunity to progress the treatment of schizophrenia and minimise metabolic side-effects.

The forthcoming challenge for Dr Green and the team in Wollongong will be to identify current drug treatments that may be adapted as adjunctive treatments to help improve the lives of people with schizophrenia.

“Targeting the GLP-1 system may present a new and exciting opportunity to progress the treatment of schizophrenia and minimise metabolic side-effects.”
Many antipsychotic drugs that are presently available to treat schizophrenia cause side effects such as weight gain, or only address the positive symptoms of schizophrenia, such as hallucinations. Assoc. Prof. Chao Deng’s research has focussed this year on identifying possible new antipsychotic drugs that would better treat the negative symptoms of schizophrenia and reduce associated side effects.

In a review published in Psychopharmacology, Assoc. Prof. Deng and his team wrote about the possibilities presented by the NRG1-ErbB4 signalling pathway, which has been the subject of numerous prominent studies that link the pathway to many aspects of schizophrenia. Assoc. Prof. Deng believes that better understanding of the NRG1-ErbB4 signalling pathway could lead to the development of a new generation of antipsychotics that would have fewer side effects and focus on addressing both the positive and negative symptoms of schizophrenia.

Previous studies have identified that the NRG1-ErbB4 signalling pathway is involved in multiple biological functions in neurodevelopment, including the growth and maturity of neurons and the way information is transmitted in the brain. The NRG1 and ErbB4 genes have been identified as candidate genes for schizophrenia, and post-mortem brain tissue and blood tests show that there is altered expression of NRG1 and ErbB4 and their signalling activity in people with schizophrenia.

In addition, laboratory animals that have deficits in the NRG1-ErbB4 pathway or those with an overexpression of the NRG1-ErbB4 pathway display abnormal behaviours that mimic many of those found in schizophrenia. When treated with an antipsychotic drug these animals showed improvement, which could be evidence that a new generation of medication could deliver better results for people with schizophrenia than current antipsychotics. This paper proposed a working model of the interaction between NRG1-ErbB4 pathways and key neurotransmitters (such as GABA, NMDA and dopamine receptors) for the pathophysiology of schizophrenia, and pointed out potential therapeutic targets for further testing.

In the coming year, Assoc. Prof. Deng and the team at University of Wollongong will continue to pursue further studies of the NRG1/ErbB4 signalling pathway in an effort to identify specific targets along the pathway that could be responsive to new treatments.

“Assoc. Prof. Chao Deng’s research has focussed this year on identifying possible new drugs that would better treat the negative symptoms of schizophrenia and reduce associated side effects.”
This past year Dr Thomas Weickert has directed two studies that examined the role of testosterone in thinking, brain activity and emotions in men with schizophrenia and along with his wife, Prof Cyndi Shannon Weickert, conducted a separate study that identified a gene that makes a form of the N-methyl-D-aspartate (NMDA) receptor that is present in the brain and is related to poor problem solving.

Previous studies have shown that schizophrenia has a slightly higher prevalence in men, the age of onset is earlier than for women and supplementation with testosterone may reduce some of the negative symptoms of schizophrenia in men. The role of testosterone in schizophrenia, therefore, deserved further exploration.

The first study, published in the journal *Psychoneuroendocrinology*, aimed to discover whether men with schizophrenia had lower levels of testosterone relative to healthy controls and to determine whether lower testosterone levels were related to higher symptom severity and impaired cognition. They found that having low normal testosterone levels is associated with thinking impairment in men with schizophrenia, suggesting that normal levels of this sex steroid may have beneficial effects on thinking in men with schizophrenia.

In a study published later in the year, Dr Weickert and his team investigated the relationship between testosterone and brain activation during an emotional task that required people to either respond or not respond to positive, neutral or negative words. Emotional disturbances are a common symptom of schizophrenia and this emotional test was used to measure the control of thought over emotion.

The study found that men with schizophrenia performed worse than healthy men on the emotional control test. The study also found that the relationship between testosterone and brain activity is different between healthy men and men with schizophrenia, and that the relationship between testosterone and brain activity in the frontal cortex is important to control emotion in men with schizophrenia. These findings are very encouraging and open up an avenue of research that centres on the role of testosterone in emotional control in schizophrenia.

The third study showed that a gene that makes the NMDA receptor in the brain, which is important for learning and memory, can produce a form of the receptor in the frontal cortex that leads to poor problem solving in both people with schizophrenia and, to a lesser degree, healthy people. This is the first time such evidence has been shown and it suggests that therapies that target this receptor in people who have the risk form of the gene may benefit from assistance to help their thinking abilities.

“Our studies on testosterone are the first to show that testosterone seems to have a beneficial effect on thought processing in men with schizophrenia, which is different to the relationship between testosterone and thought processing in healthy men,” says Dr Weickert. “These results have opened up many more research pathways for us to explore in order to better understand some of the causes of, and possibly some new treatments for, schizophrenia.”
The Epidemiology and Population Health team are primarily based in Sydney’s Darlinghurst and led by Institute CEO, Professor Vaughan Carr. Many of the team are also affiliated with the University of NSW. Their main areas of research encompass health and disease in populations with the particular aim of identifying the risk factors associated with schizophrenia and possible early intervention opportunities.
Dr Kristin Laurens is Senior Lecturer in the School of Psychiatry at the University of New South Wales, and also at the Institute of Psychiatry, King’s College London.

A group of scientists attached to the Institute’s Child Development Study have been awarded a substantial grant by the National Health and Medical Research Council (NHMRC). The grant, which was won in a highly competitive environment, will provide more than $775,000 over three years. The research will assess the effectiveness of the Kids Matter Primary (KMP) initiative, particularly whether the program can help build resilience and promote lifelong wellbeing in children who are vulnerable to developing mental illness.

KMP has been rolled out to more than 1,600 primary schools across Australia, and equips children with the social, emotional, behavioural, and cognitive skills needed to grow into healthy adults. The Institute’s Child Development Study team, led by Prof. Vaughan Carr, will take existing information about social, emotional, behavioural, and cognitive functioning that was collected from 87,000 children in New South Wales when they started school at age 5 (in 2009), and combine this with new information to be gathered about their functioning when these same children turn 11 years of age.

“The NHMRC grant will allow us to look at how social, emotional, behavioural, and cognitive functioning develops between the ages of 5 and 11 years,” explains Dr Laurens. “For example, we can see whether five-year-olds who are shy, sensitive, and withdrawn from their peers when they start school continue to show these traits at age 11, or whether programs delivered within KMP change this development pattern and reduce social anxiety.”

This information will help to further improve the KMP program, and will also contribute to the development of policies focused on improving the mental wellbeing for all young people in Australia.

The research will also identify patterns of vulnerabilities in children who might be at risk of developing schizophrenia, and to work out how their developmental pathways may be modified to reduce their likelihood of later becoming ill. “We know that a family history of schizophrenia, for example, is a risk factor,” explains Dr Laurens. “It doesn’t account for most cases, but it is a starting point that may help us identify other factors that are operating in the development of schizophrenia, and how these factors interact with each other to bring about illness.”

Once this information has been assessed, the next step will be to develop and deliver programs targeted at these specific mental health needs so that any child, whether at risk of developing schizophrenia or not, will be able to develop resilience to life’s challenges and maintain a healthy mental state. This is an exciting new enterprise for the Institute, which over the next few years could be instrumental in developing effective policies and programs that improve the mental wellbeing of Australia’s children.

This is an exciting new enterprise for the Institute that will allow us to further develop our current research program and, over the next few years, could be instrumental in developing effective policies and programs aimed at improving the mental wellbeing of Australia’s children.
Young people whose drug use triggers a first episode of psychosis have both the best and worst possible treatment outcomes, according to a study conducted by Dr Grant Sara. Researchers from the Institute’s Epidemiology and Population Health group have been working closely with Dr Sara to improve the use of NSW health data to support research into schizophrenia and other psychoses.

Two studies emerging from this work have revealed that in NSW nearly half of young people admitted with a first episode of psychosis have significant substance abuse, particularly involving cannabis and stimulants, and that stopping drug use has a positive influence on treatment outcomes.

A second study showed that those whose drug use triggered a psychotic episode showed better treatment outcomes than those who had never used substances, but only if they ceased using. Conversely, those who continued drug use after the first episode had the worst outcomes.

“There are a lot of risk factors involved in schizophrenia that health services can’t influence when a person first makes contact. Things like genetic predisposition or perinatal complications are important, but these things have already happened when a person seeks care,” says Dr Sara. “However drug use is a risk factor that they can influence. We can help people to understand that this is an element that is in their control and that reducing drug use can help produce positive health outcomes.

“Currently, this research doesn’t tell us the best way to help a young person to stop their substance use, but it does tell us that it’s incredibly important that they do stop,” says Dr Sara. “Often the first steps in changing drug use involve raising awareness and recognising that it is important and possible to change. It’s terrible when a young person has an episode of psychosis triggered by drugs, but there is a very hopeful message here for these young people and their families.”

Dr Sara has also been working with the Institute to create diagnostic algorithms to recognise people with schizophrenia from multiple de-identified health records. This work aims to make it easier for researchers to use NSW Health data to learn more about risk factors associated with psychosis. These health datasets have been used in research examining issues such as the role of immigration and the prevalence of psychosis in the NSW population, as well as in ongoing research into the relationship between substance use and psychosis.

“It’s terrible when a young person has an episode of psychosis triggered by drugs, but there is a very hopeful message here for these young people and their families.”
Researchers Sandra Matheson and Alana Shepherd worked in conjunction with Anne-marie Boxall, founding Director of the Deeble Institute, to use summaries they had created for the Schizophrenia Library to create evidence briefs that could be used to inform mental health policies.

Research in the health services field often lacks high quality evidence to support policy decisions. To help correct this Ms Matheson and Ms Shepherd systematically collated and examined evidence of studies relevant to current policies and assessed their respective outcomes. The partnership between the two Institutes started by looking at two particular topics: the efficacy of case management for people with schizophrenia, and whether mental health laws were leading to treatment delays for people with schizophrenia.

In the first instance it was found that the majority of patients who received case management – defined as a patient’s community treatment being coordinated by a designated mental health clinician – tended to spend less time in hospital because patients received better integrated and coordinated care outside of hospital. Intensive case management, which focuses on the integration of services provided by a multidisciplinary team whose members have a relatively small caseload and therefore have more time to devote to each patient, was also explored. It was found that in comparison with standard case management, the only demonstrated benefit was a reduced treatment dropout rate for up to 12 months. This, however, was not the situation for people with schizophrenia who also had substance abuse problems. The brief recommended that policy makers should feel confident that case management services would be of benefit for schizophrenia in the community.

The second evidence brief found that Australia’s use of the Obligatory Dangerousness Criterion, which states that a person needs to have a history of violence to others or self-harm in order to be considered for involuntary (compulsory) treatment, may have a detrimental effect on people suffering with schizophrenia because it can delay timely access to treatment and is particularly problematic for people in their first-episode of psychosis. The brief went on to suggest that Australia should examine the criteria used in other jurisdictions for determining whether patients with schizophrenia should be committed to involuntary treatment.

These briefs were subsequently sent out to the NSW National Mental Health Commission and the second one was also discussed on the national health website Croakey. It is hoped that the excellent information contained in the Schizophrenia Library will continue to help inform mental health policies in Australia.

“Information contained in the Schizophrenia Library will continue to help inform mental health policies in Australia.”
Institute-supported researcher Jesseca Rowland is a PhD candidate at the University of New South Wales.

The ability to regulate emotions and interpret stressful life events accurately is a skill many take for granted. However, for people with schizophrenia, the tendency to dwell on issues, to blame others for events that no-one has control over, or to catastrophise can contribute to feelings of depression or anxiety.

A study led by PhD candidate Jesseca Rowland examined whether the tendency to use particular cognitive strategies to regulate negative emotion differed among patients with schizophrenia and bipolar disorder compared with healthy controls, and whether these cognitive strategies could be useful in predicting levels of depression, anxiety, stress and the propensity for hypomania in both schizophrenia and bipolar disorder.

The study found that people with schizophrenia and bipolar disorder reported more frequent rumination, catastrophising and self-blame, and less use of putting events into perspective, when compared with healthy controls. Additionally, people with schizophrenia were more likely to engage in other-blame, which sees them assigning blame to other people for events outside their own control. The study also found that the use of self-blame within the schizophrenia group best predicted the occurrence of negative emotions.

These findings demonstrate that people with schizophrenia and bipolar disorder don’t use the best or most appropriate cognitive strategies to interpret events or emotions and that this dysfunctional use of strategies may reflect deficits in neurocognitive functions associated with each of the disorders.

Targeted therapeutic interventions to improve contextual awareness (that is, to reduce self-blame and catastrophising, and improve cognitive reframing skills) may be useful to help people with schizophrenia to cope with day-to-day stressors and provide relief from anxiety and depression.

Targeted therapies to improve emotional awareness may provide relief from day-to-day stressors, anxiety and depression.

Three words that describe how we feel about the continued generosity of our donors and supporters.

Every gift large or small, every volunteer hour committed makes an incredible difference.

It is thanks to your support, enthusiasm and dedication that we have managed to achieve record levels of donations for our tax appeal this year and the reason every one of our fundraising events held in the last 12 months has been so successful.
Our community of donors and fundraisers are a constant inspiration. It is thanks to their support, enthusiasm and dedication that each and every one of our fundraising events this year has been a success and allows us to keep supporting our scientists as they search for ways to make the lives of those with schizophrenia a little easier.

Our major partners, the NSW Ministry of Health, National Health and Medical Research Council, NSW Trade and Investment, Macquarie Group Foundation, NeCTAR and CFMEU NSW have also sustained in their support of our vision to understand and better treat schizophrenia.

We are also thankful for our ongoing partnerships with the Pratt Foundation, Hunt Family Foundation, the Ian Potter Foundation and ANZ Trustees.
SPARK OF GENIUS

The Institute’s annual fundraising gala, Spark of Genius, not only managed to raise well over $100,000 for schizophrenia research this year, it also introduced a host of new people to the vital work being done by our scientists. Professor Vaughan Catto took the opportunity to interview a handful of our scientists throughout the night to show the incredible research work that is currently being conducted and offer a glimpse of the successes that await.

Spark of Genius was held at the Sydney Hilton Hotel and brought together the best minds in science, business, law and entertainment. The money raised will continue to support our search for a cure and better treatments for schizophrenia. Entertainment was provided by Soulfood a capella, who ushered guests into the ballroom, speed-painter Brad Blaze and The High Rollers who finished the night on a big band high.

STOP FOR SCHIZOPHRENIA

The revamped STOP for Schizophrenia, which was previously known as Swarestop, launched in 2013 and invited participants to raise money for schizophrenia research by giving up a vice of their choosing. People could still opt to stop swearing or they could sacrifice their daily coffee, chocolate, online shopping or nightly tipple if that was more appropriate. Celebrity ambassadors Fitzy and Wippa, radio hosts on Nova FM, gave up soft drinks and ice cream, the Bondi Rescue team set up a swear jar to collect fines for every slip of the tongue and Marcia Hines gave up her beloved morning caffeine. In total, more than $14,000 was raised and new names were added to the Institute supporter database.

Marcia Hines

Fitzy and Wippa
A new event on the Institute calendar, the Sydney City Scramble was a resounding success that added more than $30,000 to the Institute coffers. Close to 100 enthusiastic teamsters joined together to race around the streets of Sydney searching for cryptic clues that, once answered, would lead them on to a checkpoint where they could earn points for performing odd tasks, such as trying to pop a balloon while wearing oven mitts (it’s harder than you’d think), peeling a banana with no hands or throwing a raw egg over ever-increasing distances.

The 19 teams were also competing to be the highest fundraisers and the best dressed – costumes ranged from Scrabble letters, to bumblebees, to Where’s Wally – as well as highest point earners, which made for an even more fun-filled event. The success of the day has ensured that Sydney City Scramble will become a highly anticipated annual event that is sure to grow in popularity.

Sunday, August 11 saw 80,000 eager joggers make the 14 km journey from the city to Bondi Beach as part of annual City2Surf fun run. Among them were 10 charity gold runners who had pledged to raise money for schizophrenia research, including Eva Urban who has been a long-time supporter of the Institute, Bobbie Elston who was running for her son, and sisters Nadia and Melinda Theore who held a fundraising night to bring in extra donations.

The Institute was admirably represented by ASRB manager Carmel Loughland, who ran for the first time, as well as Institute-supported scientist Dr Kristin Laurens and Director of Operations Liesl Duffy. In total, the team managed to raise more than $17,000 for schizophrenia research.
CHINA TREK

For the first time the Institute partnered with Inspired Adventures to send 11 supporters to China to trek the Great Wall and experience many of the country’s unique cultural offerings. To participate, trekkers committed to raising $3,000 for the Institute on top of the amount needed for airfares and accommodation. Many of our supporters raised far beyond this amount, bringing the final tally to more than $55,000.

The Trekkers spent five days walking various parts of the Great Wall, including Shanhaiguan, also known as the first pass under heaven. Other experiences included the chance to learn how to make dumplings while staying in one of the villages located along the Wall, a visit to Forbidden City in Beijing and cycling in the ancient hutongs.

“Today was amazing,” wrote the trek leader on the second day of climbing the Wall. “Did we say that about yesterday? Everyone is so proud of their achievements. We’ve conquered a fear of steps and a fear of heights to take on the wall today. The first ascent was steep and the sun was hot. It was a combination that made the first 30 minutes gruelling. But we pushed on with our sights set on the highest watchtower. There will certainly be some awesome photos and personal memories from today. The team can’t believe we did it! We felt like we were on top of the world.”
THANK YOU TO ALL OUR SUPPORTERS

Thank you for being part of the journey as our scientists search for a cure. Their discoveries deliver messages of hope to the countless families and friends affected by schizophrenia, and it is all because of the support you have shown.

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Ronn Khan
Scott Gibbons

STOP Ambassadors
Angry Anderson
Corey Oliver
Dee Madigan
Marcia Hines
Michael Wipfli
Rod Kerr
Ryan Fitzgerald
Trent Maxwell

Patient Ambassadors
Kathleen Smith
Richard Schweizer

Family Ambassadors
Dee Madigan
Eva Urban
Matt Dee

Workplace Giving
BHP Billiton
Brookfield Multiplex
Deutsche Bank
Macquarie Group Foundation
Royal Bank of Scotland
UBS
Westpac
Wollongong Council

Pro Bono
Blond Catering
Decorative Events
Goldman Travel
Hilton Sydney Hotel
Kleenmaid
KPMG
Macquarie Group Foundation
Nimble Media
Soulfood Acapella
Swissotel
Toga Hotels
Usher Photography

Unteridge Design
Woodridge on the Derwent
Wynwood Estate

Many thanks to Bruce Usher for providing the majority of the photography for this annual report.
FINANCE

The abridged consolidated financial position, accounts and financial performance for the year ended 30 June 2013 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

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

Financial Performance

for the year ended 30 June 2013

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fundraising</td>
<td>966,259</td>
<td>1,103,113</td>
</tr>
<tr>
<td>External grant income</td>
<td>4,359,176</td>
<td>3,541,385</td>
</tr>
<tr>
<td>Investment income</td>
<td>55,851</td>
<td>43,668</td>
</tr>
<tr>
<td>Sundry income</td>
<td>142,543</td>
<td>137,073</td>
</tr>
<tr>
<td>Total</td>
<td>5,523,829</td>
<td>4,825,239</td>
</tr>
</tbody>
</table>

Less Expenses

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundraising, Marketing &amp; Communications</td>
<td>657,095</td>
<td>539,400</td>
</tr>
<tr>
<td>Administration</td>
<td>249,442</td>
<td>234,126</td>
</tr>
<tr>
<td>Investment</td>
<td>13,679</td>
<td>13,228</td>
</tr>
<tr>
<td>Research</td>
<td>3,794,089</td>
<td>3,967,114</td>
</tr>
<tr>
<td>Total</td>
<td>4,714,305</td>
<td>4,753,868</td>
</tr>
</tbody>
</table>

Net Surplus* (loss)

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening retained earnings</td>
<td>1,689,790</td>
<td>1,627,940</td>
</tr>
<tr>
<td>Transfer to retained earnings</td>
<td>809,524</td>
<td>71,371</td>
</tr>
<tr>
<td>Available for sale reserve</td>
<td>63,945</td>
<td>(9,521)</td>
</tr>
<tr>
<td>Closing retained earnings</td>
<td>2,563,259</td>
<td>1,689,790</td>
</tr>
<tr>
<td>Retained earnings</td>
<td>2,563,259</td>
<td>1,689,790</td>
</tr>
</tbody>
</table>

* The majority of the surplus from the financial year 2012-13 is targeted for specific projects for financial year 2013-14.
SCIENTIFIC AFFILIATES

Dr Jonathon Arnold  
University of Sydney

Dr Rebekah Atkinson  
University of Newcastle

Ms Lisa Azizi  
University of Sydney

Dr Jo Badcock  
University of Western Australia

Professor Amanda Baker  
University of Newcastle

Dr Emma Barkus  
University of Wollongong

Dr Natalie Beveridge  
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 Stan Catts  
University of Queensland

Associate Professor Loris Chahl  
University of Newcastle

Dr Martin Cohen  
University of Newcastle

Associate Professor Kimberlie Dean  
University of New South Wales

Dr Irina Dedova  
University of Western Sydney

Associate Professor Chao Deng  
University of Wollongong

Dr Teresa Du Bois  
University of Wollongong

Ms Philippa Ditton-Phare  
Hunter New England Health

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

Ms Leah Girstkin  
University of NSW  (from 14 September 2012)

Mr Jan Golembiewski  
University of Sydney

Assoc. Prof. Melissa Green  
University of NSW & St Vincent’s Hospital

Dr Mei Han  
University of Wollongong

Dr Lauren Harms  
University of Newcastle

Associate Professor Anthony Harris  
Brain Dynamics Centre, Westmead Hospital

Dr Julie Henry  
University of New South Wales

Associate Professor Frans Henskens  
University of Newcastle

Professor Herbert Herzog  
Garvan Institute of Medical Research

Dr Tina Hinton  
University of Sydney

Prof. Deborah Hodgson  
University of Newcastle

Ms Sarah Howell  
University of Western Australia  (until 3 April 2013)

Professor Xu-Feng Huang  
University of Wollongong

Professor Assen Jablensky  
University of Western Australia

Dr Linda Kader  
Melbourne Neuropsychiatry Centre, Sunshine Hospital

Dr Luba Kalaydjieva  
University of Western Australia

Dr Frini Karayianidis  
University of Newcastle

Dr Tim Karl  
Neuroscience Research Australia

Professor Simon Killcross  
University of New South Wales

Dr Matthias Klugmann  
University of New South Wales

Professor Jillian Kriil  
University of Sydney

Dr John Kwok  
Neuroscience Research Australia

Assoc. Prof. Robyn Langdon  
Macquarie University

Dr Matthew Large  
Prince of Wales Hospital

Assoc. Prof. Rhosel Lenroot  
Neuroscience Research Australia

Mr Terry Lewin  
University of Newcastle

Associate Professor Colleen Loo  
University of New South Wales

Dr Pamela Marsh  
Macquarie University
Dr Kathryn McCabe  
University of Sydney  
(from 31 December 2012)

Associate Professor Skye McDonald  
University of New South Wales

Emeritus Professor Patricia Michie  
University of Newcastle

Professor Vera Morgan  
University of Western Australia

Dr David Mossman  
University of Newcastle

Professor Bryan Mowry  
Queensland Centre for Mental Health Research

Dr Kelly Newell  
University of Wollongong

Dr Penny Newson  
University of Newcastle

Dr Olav Nielsen  
St Vincent’s Hospital & University of New South Wales

Dr Vidya Perera  
University of Buffalo/Novartis  
(from 18 March 2013)

Dr Georgina Paulik  
Bondi Junction Community Health Centre

Dr Alessandra Raudino  
St Vincent’s Hospital

Ms Kristy Payne  
Centre for Rural and Remote Mental Health, Orange

Ms Jesseca Rowland  
University of New South Wales

Dr Grant Sara  
NSW Ministry of Health & University of Sydney

Dr Maria Sarris  
University of New South Wales

Professor Ulrich Schall  
University of Newcastle

Professor Peter Schofield  
Neuroscience Research Australia

Professor Rodney Scott  
Hunter Area Pathology Service

Dr Marc Seal  
Murdoch Childrens Research Institute, Royal Children’s Hospital

Ms Donna Sheedy  
University of Sydney

Dr Glen Smith  
Macquarie Hospital, Henley Unit

Assoc. Prof. Nadia Solowij  
University of Wollongong

Dr Tirupati Srinivasan  
University of Newcastle

Dr Helen Stain  
Centre for Rural and Remote Mental Health, Bloomfield’s Hospital  
(until 1 August 2012)

Dr Renate Thielen  
Centre for Rural and Remote Health, Bloomfield’s Hospital

Dr Juanita Todd  
University of Newcastle

Associate Professor 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

Dr Katrina Weston-Green  
University of Wollongong  
(from 24 October 2012)

Professor Lea Williams  
Brain Dynamics Centre, Westmead Hospital

Ms Natalia Yee  
University of NSW  
(from 15 October 2012)

Dr Katerina Zavitsanou  
Neuroscience Research Australia

Employees and Funded Positions

Ms Katherine Allen  
Neuroscience Research Australia  
(untill 1 July 2012)

Ms Julie Barlow  
Schizophrenia Research Institute

Ms Nicole Batten  
Schizophrenia Research Institute

Ms Inara Bebris  
Neuroscience Research Australia

Mr Kel Beckett  
Schizophrenia Research Institute

Ms Bryarne Bielefeld  
Royal Women’s Hospital Brisbane, Schizophrenia Research Institute  
(until 30 June 2013)

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, St Vincent’s Hospital

Dr Vibeke Catts  
Neuroscience Research Australia

Mr Gavin Cooper  
University of Newcastle

Ms Megan Diallo  
Schizophrenia Research Institute

Ms Liesl Duffy  
Schizophrenia Research Institute

Mr Tim Ehlkes  
Schizophrenia Research Institute, University of Newcastle (until 11 March 2013)

Dr Stu Fillman  
Neuroscience Research Australia

Ms Cheryl Filippich  
Queensland Centre for Mental Health Research (until 30 June 2013)

Dr Elisabeth Frank  
Schizophrenia Research Institute, University of Wollongong (until 30 June 2013)

Dr Samantha Fung  
Neuroscience Research Australia

Ms Sarah Gale  
Schizophrenia Research Institute, University of Melbourne (until 30 June 2013)

Assoc. Prof. Melisa Green  
St Vincent’s Hospital, University of New South Wales

Ms Renee Hampson  
Schizophrenia Research Institute

Ms Janette Howell  
Schizophrenia Research Institute, University of Newcastle

Ms Chelsea Hunter  
Schizophrenia Research Institute (from 17 September 2012)

Dr Dipesh Joshi  
Neuroscience Research Australia

Dr Kristen Laurens  
St Vincent’s Hospital

Ms Kelly Liu  
Schizophrenia Research Institute, University of Wollongong (from 2 January until 30 June 2013)

Dr Leonora Long  
Neuroscience Research Australia

Associate Professor Carmel Loughland  
University of Newcastle

Ms Jac Kee Low  
Neuroscience Research Australia, Schizophrenia Research Institute

Ms Sandra Matheson  
Schizophrenia Research Institute, St Vincent’s Hospital

Dr Kathryn McCabe  
Schizophrenia Research Institute, University of Newcastle (until 31 December 2012)

Ms Bharti Morar  
University of Western Australia (until 30 June 2013)

Ms Gwynned O’Neill  
Neuroscience Research Australia (from 10 September 2012)

Ms Samantha Owens  
Neuroscience Research Australia (until 3 April 2013)

Ms Beatrix Palmer  
Schizophrenia Research Institute, University of Sydney

Mr David Paul  
University of Newcastle

Ms Michelle Poole  
Schizophrenia Research Institute, University of Newcastle

Dr Tertia Purves-Tyson  
Neuroscience Research Australia

Mr Yann Quide  
Schizophrenia Research Institute, St Vincent’s Hospital

Mr Paul Rasser  
University of Newcastle

Dr Alessandra Raudino  
St Vincent’s Hospital

Ms Dominique Rich  
Schizophrenia Research Institute, University of Newcastle

Ms Debora Rothmond  
Neuroscience Research Australia

Ms Alice Rothwell  
Neuroscience Research Australia (until 11 July 2012)

Professor Ulrich Schall  
University of Newcastle

Professor Cynthia Shannon Weickert  
Neuroscience Research Australia

Dr Alex Shaw  
Neuroscience Research Australia

Ms Alana Shepherd  
Schizophrenia Research Institute, St Vincent’s Hospital

Ms Peta Snikeris  
Schizophrenia Research Institute, University of Wollongong (from 13 August until 21 Dec 2012)
Ms Julia Stevens
Schizophrenia Research Institute,
University of Sydney

Mr Yash Tiwari
Neuroscience Research Australia

Ms Melissa Tooney
Schizophrenia Research Institute,
University of Newcastle
(_until 14 April 2013)

Ms Shan-Yuan Tsai
Neuroscience Research Australia

Dr Ans Vercammen
Neuroscience Research Australia
(_until 31 August 2012)

Dr Thomas Weickert
Neuroscience Research Australia

Ms Ruth Wells
Neuroscience Research Australia
(from 19 July 2012)

Dr Eryn Werry
Neuroscience Research Australia

Ms Heng Woon
Neuroscience Research Australia
(_until 31 July 2012)

Dr Katerina Zavitsanou
Neuroscience Research Australia

Supported Students

Ms Katherine Allen
University of New South Wales

Ms Jessica Andrews
University of Wollongong

Mr Joshua Atkins
University of Newcastle
(from 1 January 2013)

Ms Sonja Bouwer
University of Western Australia

Mr Christian Bouwkamp
Erasmus University Medical Centre

Mr Adam Carroll
University of Newcastle

Ms Hui-Minh Chan
Monash University

Mr David Chang
University of New South Wales
(from 1 December 2012)

Ms Saruchi Chhabra
University of Western Australia

T-Yunn Chia
University of New South Wales

Dr Martin Cohen
University of Newcastle

Ms Julie Crabtree
University of New South Wales

Ms Amy Dawson
University of Wollongong

Ms Dominique Derminio
Neuroscience Research Australia

Ms Rickie-Leigh Elliot
University of Newcastle

Mr Martin Engel
University of Wollongong

Dr Stuart Fillman
University of New South Wales
(_until 31 November 2012)

Ms Sacha Filia
Monash University

Ms Erin Gardiner
University of Newcastle

Mr Michael Geaghan
University of Newcastle
(from 1 January 2013)

Ms Leah Girshkin
University of New South Wales
(from 1 July 2012)

Ms Belinda Goldie
University of Newcastle

Ms Kristi Griffiths
University of Sydney

Ms Mary-Claire Hanlon
University of Newcastle

Mr Ian Harding
University of Melbourne

Ms Juliane Heide
University of New South Wales

Ms Sarah Hiles
University of Newcastle

Ms Sharon Hollins
University of Newcastle

Ms Kim Huyh
University of New South Wales
(from 11 February 2013)

Ms Ellen Ji
University of New South Wales
(from 1 February 2013)

Mr Tamar Karkour
Macquarie University

Lily Knechtel
University of Newcastle

Ms Jenny Kokinos
University of Leipzig, Germany

Dr Nishantha Kumarasinghe
University of Newcastle
(_until 1 May 2013)
Ms Lisa Lee  
*University of New South Wales*  
(from 11 February 2013)

Mr William Lee  
*University of New South Wales*  
(from 4 February 2013)

Ms Susan Liersch  
*University of Wollongong*  
(until 30 June 2013)

Mr Jeremy Lum  
*University of Wollongong*

Ms Sandra Matheson  
*University of New South Wales*

Ms Natalie Matosin  
*University of Wollongong*

Dr Kathryn McCabe  
*University of Newcastle*  
(until 31 December 2012)

Mr Matthew McTeigue  
*University of Newcastle*  
(from 1 July 2012)

Ms Margaret Nelson  
*University of Melbourne*

Mr Juan Otava  
*University of New South Wales*  
(from 25 February 2013)

Ms Stephanie Quail  
*University of Sydney*  
(until 1 December 2012)

Ms Colleen Respondek  
*University of Wollongong*

Ms Mayasa’a Safadi  
*University of Wollongong*

Ms Danielle Santarelli  
*University of Newcastle*

Ms Alana Shepherd  
*University of New South Wales*

Ms Ashley Skilleter  
*University of New South Wales*

Ms Ketrina Sly  
*University of Newcastle*

Ms Peta Snikeris  
*University of Wollongong*  
(until 13 August 2012)

Mr Vaidy Swaminathan  
*University of Melbourne*

Ms Louise Thornton  
*University of Newcastle*

Mr Yash Tiwari  
*University of New South Wales*

Ms Shan-Yuan Tsai  
*University of New South Wales*

Ms Kandice Varcin  
*University of New South Wales*

Dr Katrina Weston Green  
*University of Wollongong*  
(until 1 December 2012)

Ms Natalia Yee  
*University of New South Wales*  
(from 15 October 2012)

Mr Yiru Zhang  
*University of New South Wales*  
(from 4 February 2013)

Grants

**Grants Administered by SRI**


Carr V. General medical research grant. ANZ Trustees on behalf of The Robert William Robertson Estate, 2012 ($80,052).

Green M et al. Social cognitive skills training in young people with schizophrenia. Joan Salter Grant, Rotary Club of Sydney 2013-2015 ($48,000).


**Grants Administered by SRI Researcher’s Host Institution**

Cairns M, Walker R, Brichita A, Beveridge N. Neurodevelopmental model of schizophrenia-associated dysregulation of miR-137 expression. University of Newcastle and HMRI Near Miss Grant ($50,000)


Deng C, Huang XF. Roles of muscarinic M3 receptors in antipsychotic-induced metabolic side-effects: prevention and treatment of antipsychotic-induced insulin dysregulation. NHMRC Project Grant, 2013-2016 ($583,611)


Joshi, D. International Brain Research Organisation (IBRO) Travel Grant to International Congress on Schizophrenia Research 2013. ($1,900)

Karl T. Gene-environment interactions in brain disorders. NHMRC RD Wright Biomedical Fellowship, 2013-2016 ($439,920)
Karl T. Scientific Visit to UNSW (Prof. Joram Feldon). UNSW Brain Sciences. ($2,400)


Purves-Tyson T. Australia Israel Research Exchange Fellowship ($5,000)


Shannon Weickert C. Senior Research Fellowship A, National Health and Medical Research Council Research, 2012 ($580,910)

Shannon Weickert C, Double K, Purves-Tyson T. Molecular mechanisms of testosterone action on midbrain dopamine neuron differentiation. National Health and Medical Research Council Project Grant, 2012-2014 ($328,175)


Todd J, Schall U, Forstmann B, Kotz E, Michie P. Identifying pathways to better detection of temporal cues in sound. University of Newcastle Near Miss Funding, 2013 ($50,000)


**Publications**


He M, Deng C, Huang XF. The role of hypothalamic H1 receptor antagonism in antipsychotic-induced weight gain. CNS Drugs 2013; 27: 423-434.


CHANGE STARTS WITH
ONE IDEA | ONE SUPPORTER | ONE DONATION
ONE SCIENTIST | ONE DREAM | ONE BELIEF
ONE CELL | ONE GOAL | ONE BREAKTHROUGH
ONE GIFT | ONE DAY