

LuminesCent



Dr Nick West of the Mycobacterial group hopes to eradicate a world-wide pandemic.

Local Stonemason claims prize for Centenary Institute

Centenary supporter Karl van Middeldyk claimed second place in honour of the Institute at the Mosman Festival of Sculpture for his piece entitled *Unlocking the Links*.

The sandstone sculpture is a tribute to the life-saving research the Centenary Institute's Agnes Ginges Centre for Molecular Cardiology is doing on genetic heart disease.

In 2006 van Middeldyk's 19-year-old brother Heath died from what is believed to have been a genetic disorder causing sudden cardiac arrest.

The chains and keyless lock in van Middeldyk's sculpture symbolise the challenge for researchers to unlock the causes of sudden death.

van Middeldyk generously donated his prize winnings and the sculpture to the Centenary Institute, where it is proudly displayed at reception. The stonemason said he hoped the gift would "create a ripple effect of giving, inspiring people to give as they are able to help others."

Scientists in hot pursuit of first new drug for global killer in 50 years

On World TB Day, researchers at Sydney's Centenary Institute announced they made an exciting discovery that could lead to the first new drug for Tuberculosis (TB) in almost fifty years.

Dr Nick West, Associate Faculty of the Mycobacterial group at Centenary explains, "When someone is infected with TB they either become sick immediately or the disease stays inactive, latent."

"Unfortunately, the antibiotics we use to fight TB aren't effective against latent TB and can only be used when the disease becomes active. This is a major problem as 1 out of 10 people who have latent TB will develop the active disease, becoming sick and contagious."

Dr West and his team have made a vital discovery in the development of a new drug that could cure TB in the latent stage. If the project succeeds, it will be the first new treatment for TB since 1962.

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Centenary
Institute
research
for life



This is exciting news given that TB kills almost 2 million people each year. One third of the world's population, or two billion people, are infected with TB. Every second of every day another person is infected.

And worse, TB is at Australia's doorstep with the fastest growing incidence of the disease occurring in South East Asia. Luckily, the Centenary Institute, Australasia's largest TB research facility, is mounting a winning fight against this global killer.

Dr West explains, "We have investigated a protein that is essential for TB to survive and we have had some success in developing a drug that will inhibit this protein. Our goal over the coming months is to find out the full extent of this drug's potential."

"If we can figure out a way to treat TB when it's in a latent stage, then we could save millions of lives throughout the world."

Sincere Thanks and Warm Welcome



How far we have come: Foundation Chairman Neil Lawrence, Centenary Institute Executive Director Professor Mathew Vadas, Prime Minister, The Hon Julia Gillard and Centenary Chairman The Hon Michael Egan at the 2008 launch of the Foundation.

At the Foundation Dinner in June, Executive Director Professor Mathew Vadas formally announced that Neil Lawrence would be stepping down as Chairman of the Foundation.

Mr Lawrence was instrumental in the establishment of this important group and, together with his wife Caroline, worked ceaselessly towards its many successes including the launch of the Foundation Dinner, a sustained and prominent national ad campaign, the rebranding of the Institute, and the establishment of the Bioinformatics group.

Professor Vadas says, "On behalf of all our scientists, I thank the Lawrences for their numerous contributions and support of the Institute. Neil and Caroline are not only wonderful friends to the Centenary, but they are also longtime personal friends. The Institute could not have worked as successfully without their thoughtful insight, passion and untiring commitment."

To honour the Lawrence's contributions, the Centenary Institute has created the 'Lawrence Creativity Award'. This award focuses on the essential ingredient in all human endeavour - whether it is in the area of science, art or marketing.

The Award, proudly sponsored by STW Group, will be presented to the Medical research scientist who demonstrates the greatest creativity in their scientific approach in a given year.

The Lawrences will continue to work as members of the Foundation, aiding the group as they raise much-needed funds for medical research.

The Centenary Institute is delighted to welcome Mr Joseph Carrozzi as the new Chairman of the Foundation.

Mr Carrozzi is a National Managing Partner at leading accounting firm PricewaterhouseCoopers. He is responsible for managing the firm's relationships with some of the largest organisations in Australia.

Mr Carrozzi is also a member of the Centenary Institute Board of Governors and has served on the Foundation for a year.

Professor Vadas says, "I am delighted that Joseph has agreed to play such an important role in this vital group. In the past few years, his insight has been tremendously beneficial and I am confident that his leadership will propel the Centenary Foundation into its next growth phase."

Helping Hand from Community Fundraisers

An outstanding effort by Canberra residents Kimberly Curtis, Kristin Auguszczak, Adam Pyne and Chris Connolly, helped raise over \$60,000 in support of Centenary's scientists and their life-saving research into heart disease.



Centenary Institute Genetics Counsellor Laura Yeates and Head of the Molecular Cardiology group Professor Chris Semsarian with Ben Curtis' wife, Kim, and his parents Tony and Kathy Curtis at the Ben Curtis Charity Golf Day.

The groups' motivation was to spread awareness and raise much-needed funds for medical research into Sudden Arrhythmia Death Syndrome (SADS), which tragically took the life of Mrs Curtis' husband, Ben Curtis, on the 8 August 2009.

SADS is the term used to describe sudden death due to cardiac arrest brought on by an arrhythmia. Researchers estimate at least 10 young Australians die from fatal cardiac arrhythmias each week.

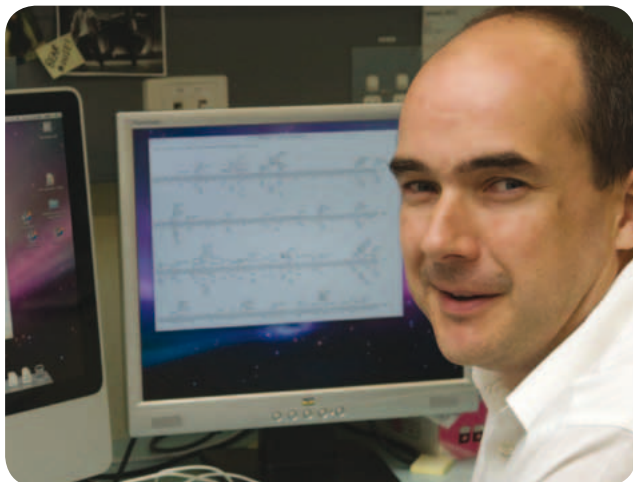
To help put and end this terrible disease, the group organised the Ben Curtis Charity Golf Day, which featured a golf tournament, gala dinner and auction.

The group donated all proceeds from the event to the Agnes Ginges Centre for Molecular Cardiology at the Centenary Institute, where Professor Chris Semsarian and his team are conducting vital research into how and why these sudden deaths occur.

Professor Semsarian says, "The terrible tragedy which has struck the Curtis family is also our inspiration as we strive to unlock the mysteries of SADS. Through medical research, improving the ways we identify those young people at risk of SADS will allow us to initiate appropriate strategies to prevent sudden death in our community."

New Research Group Makes Twelve

With the addition of a twelfth lab called the Bioinformatics group, a growing sense of excitement has filled the Centenary Institute.



Dr Nick Shackel heads the new Bioinformatics group.

This exciting new group, which integrates cutting-edge computer technology and science, will dramatically change the pace of medical research.

Professor Jenny Gamble, Head of the Vascular Biology group says, "The addition of a Bioinformatics group will reduce the time it takes to analyse my data from eight months down to only a few weeks."

Research that once took thirty years to complete can now be brought to fruition in half the time, which is fantastic news for Centenary scientists who are eager to work with the group.

Executive Director Professor Mathew Vadas says, "I am overjoyed that, thanks to the superb efforts of the Foundation, this vital group has come to fruition.

The Bioinformatics group will be instrumental to the future success of the Institute. In addition to the group's own research, it will also collect and make sense of the vast amount of data generated by the 11 other labs at the Centenary - hastening our ability to save countless people from suffering."



RESEARCHER PROFILE

Meet Dr Matt Harrison: A native of Manly, a father, a cooking enthusiast and Centenary's new Foundation Bioinformatics Fellow. At home, Dr Harrison may be a force to be reckoned with in the kitchen, but it's what he can cook up in the lab that has Centenary scientists abuzz with excitement.

With a highly - specialised ability to mix computer software engineering with science, Dr Harrison may be Centenary Institute's Master Chef in the lab.

Funded by the Centenary Institute Foundation, the Foundation Bioinformatics Fellowship was initiated to assist the 11 other labs at the Institute by quickening the pace of medical research.

Research that once took thirty years to complete can now be brought to fruition in half the time - meaning that improved treatments or cures to some of the world's deadliest diseases may be just around the corner.

As a scientist and a computer programmer, Dr Harrison offers exciting insight into how the growing field of Bioinformatics can infuse modern medical research with faster pathways to discovery.

How did you get into the field of Bioinformatics?

I started my PhD doing analytical lab work and found that as technology developed I was spending about an hour and half doing experiments and two weeks analysing the results, which was an inefficient process. Having done programming from quite a young age, I wrote some scripts and turned those two weeks of analysing down to 30 seconds.

My PhD supervisor loved it and wanted me to do more. People in the lab also started to use my programs and they accelerated the pace of our entire lab's research analysis.

After a year of doing private Bioinformatics consulting, in 2005 I got a job in the UK at the European Bioinformatics Institute, which was pretty awesome as EBI is the shining star of the Bioinformatics world.

What do you hope to achieve at the Centenary Institute?

In addition to my own research, I can help the other labs by creating software that makes researchers more efficient and productive.

As scientists, we generate data much faster than we can analyse it. Across science, you find people doing a lot of work by hand, which is fairly tedious because they have to format, reformat or individually analyse thousands of results one at a time.

This is why we need Bioinformatics; we need programming, databases and visualisation tools in order to harness the work of others.

The Centenary Institute is invested in taking Bioinformatics to that level. I think there is a great opportunity for Australia and the Centenary to make a mark on the Bioinformatics world.

What do you like about the Centenary Institute?

I like that it's an independent research institute because it allows scientists to have a clear focus on their research and on achieving real results. I also like that it works closely with Royal Prince Alfred Hospital and that many of the staff are clinicians. This shows that the Institute has a strong human focus.

To succeed in science, good people must be brought together with good projects. The Centenary fosters a stimulating and dynamic environment where scientists can achieve science and human health objectives.

PhD Student one of Chosen Few

PhD Scholar Erin Shanahan is one of only 16 students chosen worldwide to attend an advanced course at world-renown institute Cold Spring Harbor Laboratory in New York.



PhD Scholar Erin Shanahan, Mycobacterial group.

Ms Shanahan's research is based on the infectious nature of *Mycobacterium tuberculosis*, the bacteria that causes tuberculosis (TB).

Her focus is on identifying drug targets that will allow scientists to develop new treatments and improved cures to this terrible disease, which claims over 2 million lives each year.

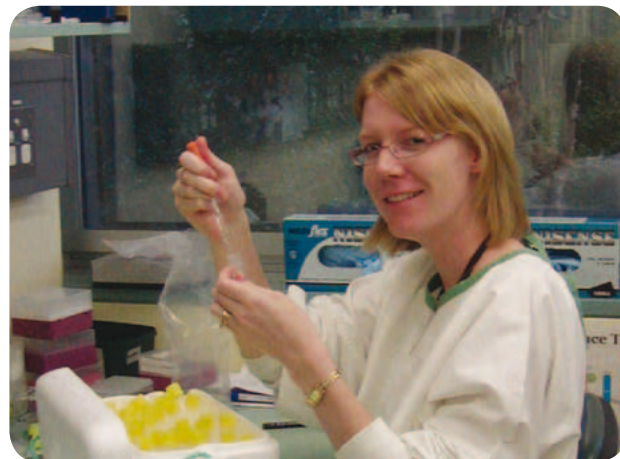
Ms Shanahan's advisor and leader of this project, Dr Nick West explains, "The current antibiotics available to treat TB are limited and require long treatment regiments. In addition, TB strains that are resistant to many of these antibiotics are rapidly emerging, requiring the urgent development of new antibiotics."

At the course, Ms Shanahan will receive lectures and practical guidance from experts in the field from leading universities across the US.

Executive Director of the Centenary Institute Professor Mathew Vadas says, "Our Mycobacterial group has made some exciting progress in discovering new methods that may put an end to this devastating disease. Erin has been a true asset to this group, and I look forward to seeing how she will translate the knowledge gained through this experience into her research at the Centenary Institute."

Young Scientist Shines

If the final months of 2009 are any indication of Lauren McKnight's career as a scientist, then the young PhD candidate has a bright future ahead of her.



PhD Scholar Lauren McKnight, T Cell Biology group.

In the span of only two months, Ms McKnight won three awards for her research into how and why people develop asthma.

The first in this young student's hat trick of accolades came in November of last year, when she won the 2009 NSW Flow Cytometry Prize for her use of the technique which counts and examines microscopic particles such as cells.

Ms McKnight's second and third awards came at the Australasian Society for Immunology conference in December 2009. At this annual event, Ms McKnight took home first place for her scientific poster, which explained how the immune system plays an important role in the development of asthma.

At the same conference, she won a science communication prize for the presentation of her research to the nonscientific community.

Recently, Ms McKnight was awarded a European Academy of Allergy and Clinical Immunology (EAACI) travel grant as well as a Centenary travel grant, allowing her to attend the EAACI Congress in London.

During the course of her travels, she also met with a number of labs across the UK and Belgium, supported by a Sydney Medical School Travelling Fellowship.

Executive Director of the Centenary Institute, Professor Mathew Vadas says, "Scientists at the Centenary Institute are devoted to educating bright young minds that will become future leaders in the field of medical research. I am extremely proud of Lauren's achievements. She is certainly someone the scientific community should watch, and I look forward to seeing what she will accomplish in the coming months."

Ms McKnight is passionate about her research at Centenary and hopes that the results will bring a benefit to community health.

She says, "There are over 300 million people affected by asthma worldwide, and nearly 10-15% of Australians have the illness. Although asthma is treatable, there is currently no cure for the disease. My hope is that through the research we do at Centenary, we will be able to find a cure to this widespread disease."

Successful Foundation Dinner



Centenary scientists Dr Nick Shackel, Head of Bioinformatics, Dr Mika Jormakka, Head of Structural Biology, Dr Paulus Mrass of the Immune Imaging group and Dr Matt Harrison, Foundation Bioinformatics Fellow.

On 4 June, the Centenary held its second annual Foundation Dinner, sponsored by PricewaterhouseCoopers. The fabulous three-course meal and wine made for an enjoyable evening.

Generous donations from Australia's premier winemakers: Hardy's, Torbreck Vinters, Mount Mary Vineyards and Yarra Yering and a special performance by Carl Riseley truly made the evening an unforgettable one.

An extraordinary group of supporters lead by Mr Neil Lawrence raised over \$100,000, which will provide the second years' funding of the Bioinformatics Fellowship. This important position will aid Centenary scientists as they search for cures and better treatments to diseases such as cancer, heart disease and TB.

If you would like to join us in our research for life by helping to fund this vital position please contact LauraBeth on 02 9565 6118.

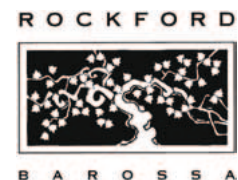
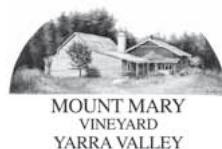


Foundation member Justice Margaret Beazley, Centenary scientist Dr Bernadette Saunders of the Mycobacterial group and Centenary supporter Graham Berecny enjoying the evening.



Carl Riseley performs.

Thank you to our sponsors:



Visit the Centenary Institute and tour our labs!

Join us on Tuesday, 17 August 2010 to celebrate National Science Week.



The evening will feature presentations from three of the Centenary's brilliant young scientists, whose work is making a profound impact on the field of medical research.



Dr Nick West of the Mycobacterial group will discuss his latest research into vaccine development for TB, a disease that kills over 2 million people worldwide each year.



Dr Nikolas Haas of the Immune Imaging group will present his work on melanoma, one of the fastest growing cancers in Australia.



Dr Jeff Holst of the Gene and Stem Cell Therapy group will discuss his findings in prostate cancer, a disease that affects millions of men across the world.

The presentations will be followed by refreshments and a tour of the labs, where you can see first-hand how our scientists are transforming the field of medical research.

Don't miss this exciting opportunity to see how Centenary scientists are making the important discoveries of tomorrow.

To confirm your attendance or for more information about the event, please contact Laura Beth at 02 9565 6118 or l.albanese@centenary.org.au

For directions to the Institute, please visit us at www.centenary.org.au

Event Details

When:

17 August 2010
5:30- 7:00pm

Where:

Building 93
RPAH
Missenden Rd
Camperdown NSW 2050

Founding Member of the Foundation Missed by all

The recent passing of our friend and supporter, Lady Sonia McMahon, saddens all of us at the Centenary Institute.

Lady McMahon was a founding member of our Foundation, headed by Neil Lawrence, and was a magnificent supporter of the Institute over the last few years. Her efforts were instrumental in a period of rapid growth for Centenary in both research output and staff numbers.

Lady McMahon was known not only for her unparalleled presence when gracing social functions, but also for her clear-sighted observations and strategic input behind the scenes.

A dedicated philanthropist and friend, she will be greatly missed. On behalf of all of us at the Centenary,



Lady Sonia McMahon, Foundation Trustee 2008-2010.

we extend our sympathy and condolences to her family and join with them in their grief.

Professor Mathew Vadas,
Executive Director



Director's Message

It is timely that I can speak with you again as a lot of good things are happening at our Institute, and a lot of progress is being made in spite of the challenging times we live in.

Last month we finalised our fourth new laboratory in the last three years-the Laboratory of Bioinformatics. This will be led by a member of our Associate Faculty, Dr Nick Shackel and is supported by the Foundation.

As you see in the body of the report, this new skill set will be essential in all aspects of our work, especially in a new field of personalised medicine – in other words, understanding how your genes will impact your health.

Next month, a remarkable group of scientists, our Scientific Advisory Board, will come for three days, review our plans and our achievements, and advise me how we might do even better.

This type of review is a wonderful example of the collaboration amongst medical researchers; indeed last month I was part of a similar team reviewing another major institute in Melbourne. We add value to our efforts by collaboration.

Both examples I have used have relied on generosity – the first by our Foundation, the latter

by our colleagues. It is this generosity that allows us to do well in difficult times, both in terms of budget supporting our science and our infrastructure being threatened.

Your generosity in supporting us is essential to our progress. At no time in the past has your interest in us been so important in achieving the sort of goals that you see in this newsletter.

Professor Mathew Vadas •



Remember the Centenary Institute in your Will

We all long for a day where cancer, cardiovascular and infectious diseases are a thing of the past. The truth is medical research is the best hope we have to wipe them out.

By remembering the Centenary Institute in your Will, you will help accelerate our work, bringing the day when no one has to fear these brutal diseases even closer.

Please contact us on 1800 677 977 today to discuss how you can use your Will to help all Australians live longer, healthier lives. Thank you.

"When you've lost family to cancer, anything that can be done is the most wonderful thing." – Ron

1 IN 3 AUSTRALIANS GET CANCER

1 IN 3 AUSTRALIANS DIE OF HEART DISEASE

1 IN 4 OF OUR CHILDREN WILL GET ASTHMA

2 BILLION PEOPLE ARE INFECTED WITH TB

YOUR GIFT could make all the difference

Please contact Sally Castle, Fundraising Manager on **1800 677 977** to discuss how you can help the Centenary Institute find cures for these devastating diseases.

Helping all Australians live longer, healthier lives www.centenary.org.au



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Locked Bag 6, Newtown NSW 2042 P 02 9565 6100 F 02 9565 6101 E enquiries@centenary.org.au

Editorial: LauraBeth Albanese Print Management: Morprint

