

RECENT DEVELOPMENTS

NEWS UPDATE

MEDIA HIGHLIGHTS

Centenary
Institute
life saving
research

Cancer. Inflammation. Cardiovascular.



GUT BACTERIA COULD HOLD THE KEY TO TREAT AND PREVENT STROKES IN YOUNG PEOPLE

Cerebral cavernous malformations (CCMs) are a relatively common cause of stroke and seizure with no effective medical treatment available to patients. One in six Australians will have a stroke in their lifetime. Game-changing new research by scientists at Centenary, in collaboration with multiple institutions in the United States, recently published in Nature, has found that gut bacteria could be the key to prevent potentially deadly strokes. This discovery could lead to the first effective, non-invasive treatment option for patients with CCM.



GENE CONTROL IN ALL CELLS IN THE BODY OFFERS POSSIBLE IMPROVEMENT FOR CANCER TREATMENT

Researchers from Centenary have discovered that naturally occurring chemical modification to the DNA, known scientifically as DNA methylation, can change the way information in genes are read. The research team from the Gene and Stem Cell Therapy Program led by Professor John Rasko and Dr Justin Wong found when these "punctuation marks" are put at the wrong place, the "spacer DNA" is present at inappropriate sections of the gene. Consequently, the information is "whited out" because the sentences in the "paragraphs" no longer make sense.



NEW DRUG LEAD IDENTIFIED IN FIGHT AGAINST TB

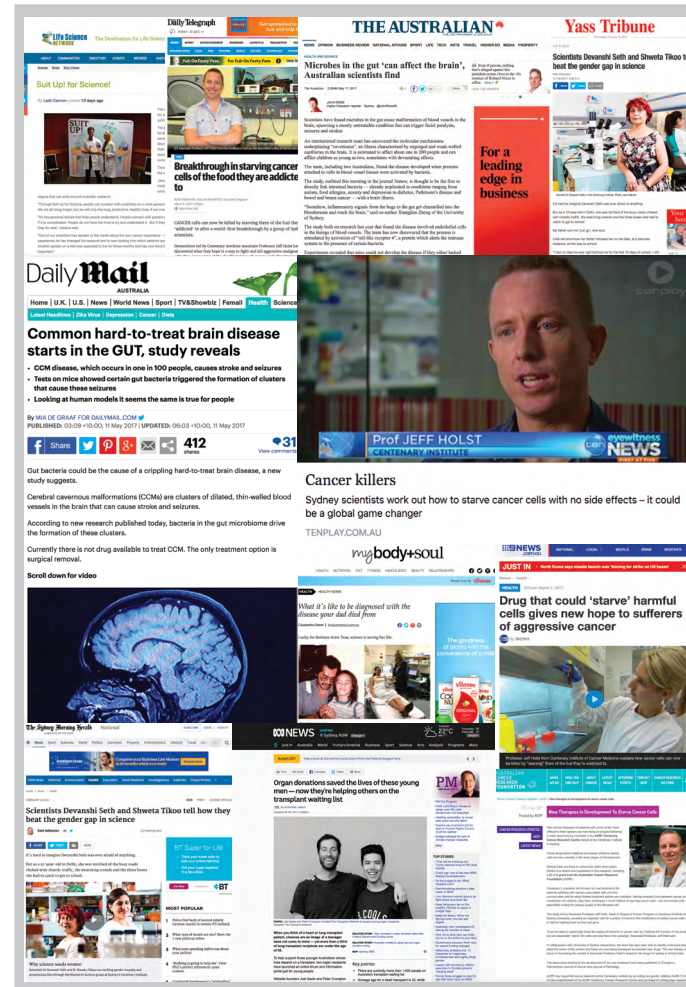
An international collaboration led by University Professors Richard Payne, from the School of Chemistry, and Warwick Britton, from the Sydney Medical School and Centenary, has discovered a new compound which could translate into a new drug lead for Tuberculosis. Its findings were published in Nature Communications.

The group was drawn to soil bacteria compounds known to effectively prevent other bacteria growing around them. Using synthetic chemistry, the researchers were able to recreate these compounds with structural variations, turning them into more potent compounds called analogues. When tested in a containment laboratory these analogues proved to be effective killers of Mycobacterium tuberculosis.



NEW DRUG DEVELOPMENT TO STARVE CANCER CELLS

Revolutionary new cancer therapies for patients suffering with some of the most difficult-to-treat cancers are now being developed following a major discovery by scientists in our ACRF Centenary Cancer Research Centre. These new and potentially game-changing drugs block metabolic processes critical to cancer cells and are currently in the early stages of development. Clinical trials will likely commence within three years thanks to a recent investment in this exciting new research.

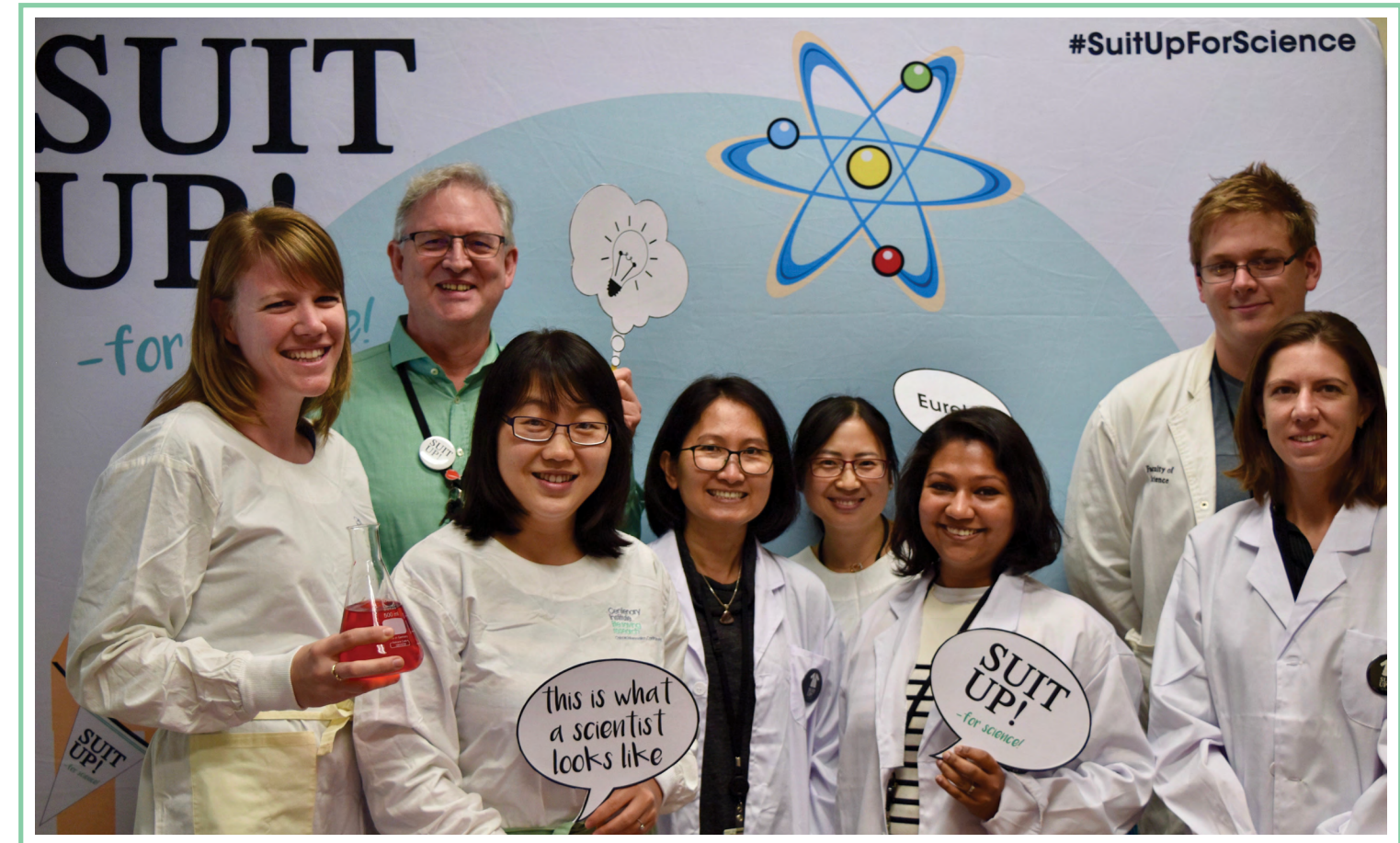


YOUR SUPPORT IN 2017

Your generosity makes a world of difference to our researchers! There are lots of different ways you can offer your support and ensure your contribution is used to directly impact the area of research you are passionate about.



If you're interested in making a donation to a specific area of our research please contact us on 1800 677 977, email us at donations@centenary.org.au or you can make an online donation and nominate the area at www.centenary.org.au
Thank you for your ongoing support!



we're
SUITING UP! for science!

To find out more about our scientists and their latest developments visit our [website](http://www.centenary.org.au)

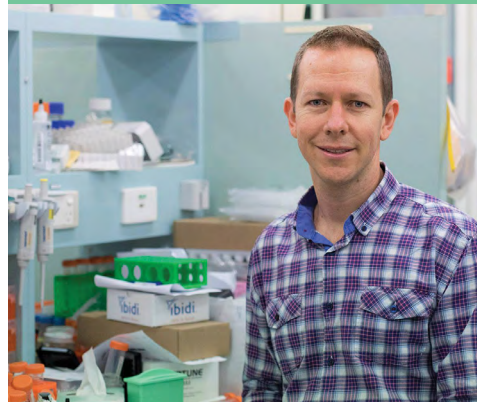
WINTER 2017
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HUMANS OF THE CENTENARY INSTITUTE

NEWS UPDATE

We want to introduce you to our scientists as humans. These are the people who directly benefit from your ongoing support. They are so excited to share their stories with you!

DR STUART GALLAGHER



Dr Gallagher is a cell biologist with Centenary's Melanoma Oncology and Immunology team and he says, the most rewarding part of his job is, "When a result first flashes up on the screen and you know that it means something important. This explains my perverse love of western blots (a way of analysing protein) – they take a while to perform and often don't work, but a good one is both beautiful and tells an important story."

Stuart's role at Centenary is clearly very important, but so is his role at home, as the proud father of three children, Stuart says what makes him smile is, "The reception I get from my kids when I get home. They are all under five, so they are still excited to see me."

DR JUSTIN WONG



Dr Justin Wong, the leader of the Gene Regulation in Cancer Lab, is one of the brightest young scientific minds in the country, dedicating his life's work to better understanding disease and finding cures. He is motivated to help human-kind through his work and says there is still so much that is unknown about human diseases and he is always looking for "that moment" when he can uncover something important.

Justin recalls, during undergraduate study, a lecturer once said that science exists because there are problems that are yet to be solved.

In his spare time, Justin helps those less fortunate, including volunteering for the sick, poor and needy through his church.

DR CHRIS JOLLY



Dr Chris Jolly was working on uncovering how some blood cancers start when he received some devastating news; the father of two had cancer rapidly growing inside his own body. The cancer researcher became a cancer patient. Chris received tortuous treatment, seeing the disease from another angle, no longer just through a microscope.

"I know first-hand how debilitating chemotherapy can be. Having a better understanding of how cells respond to genome damage and chemotherapy will provide us with valuable insight into the origins of cancer and produce new tools for better targeting of cancer chemotherapeutics."

HOW HER FATHER'S DEATH PROVIDED LIFE-SAVING CLUES FOR HER...



Barbara-Anne's father tragically collapsed and died at the age of just 32 after playing sport when she was just a child, and while the official cause of his death was at the time identified as a mitral valve prolapse, a lack of medical knowledge on a condition called Long QT Syndrome, which causes irregular heartbeats, is more likely to be to blame. Nearly 10 years later when it was determined that Barbara-Anne had Long QT, it was thought that her dad may have been misdiagnosed.



Our Scientists are investigating better ways to treat and prevent tragedies for those with Long QT and identifying those at risk, such as Barbara-Anne. New research has enabled her to implement preventative measures that her father wasn't aware of and further life-saving research in this area is underway to help treat patients at risk. Read Barbara-Anne's story [here](#).

MARK GORRELL APPOINTED TO ACADEMIC BOARD OF THE UNIVERSITY OF SYDNEY



We are proud to announce that Centenary Associate Professor Mark Gorrell, Head of the Molecular Hepatology Laboratory, has been appointed to the Academic Board of the University of Sydney.

The Academic Board of each Australian University is an important driver of policy and strategy and consists of elected and appointed academics and elected students from all faculties. The University of Sydney's Academic Board has a responsibility to encourage and maintain the highest standards in teaching, scholarship and research. The Academic Board reports to the University Senate and provides academic advice to both Senate and the Vice-Chancellor on all academic matters, including academic aspects of the University's strategic plan, priorities and policies. Congratulations Mark!

Australian GEOGRAPHIC

AUSTRALIAN GEOGRAPHIC SUIT UP! FOR SCIENCE!

Our scientists are honoured to be able to Suit Up! for Science! every day and they have had a wonderful time as part of our Suit Up! for Science! campaign raising awareness about the importance of their vital research at schools, businesses, community visits and Australian Geographic stores. A huge thanks to everyone who has supported the campaign and especially Australian Geographic for getting behind the campaign - your staff were awesome.



To find out more about Suit Up! for Science! follow this [link](#) or [email us](#).

Would you like to visit Centenary to see first hand what we do and meet some of our scientists in person? Email us [here](#)

RUNNING IN THE CITY2SURF THIS YEAR? WHY NOT RUN FOR THE CENTENARY INSTITUTE?

If you would like to run for a vital cause, nominate to be part of Team Centenary when you register in this year's City2Surf. Why not consider asking a group of friends or colleagues to join you as part of our Team.

All fundraising by our wonderful Team Centenary members is directed to understanding disease and finding cures in the areas of cancer, inflammation and cardiovascular disease.

For further information, please visit our website [here](#) or [email us](#).



Sunday, August 13, 2017