

LATEST NEWS

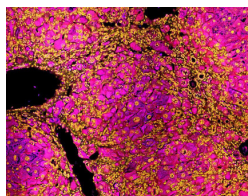


FUNDING BOOST FOR CARDIOVASCULAR DISEASE

The NSW Government has committed \$150 million to cardiovascular disease research over the next decade.

Cardiovascular disease is Australia's biggest killer, with figures from the Australian Bureau of Statistics showing one Australian dies every 12 minutes from heart, stroke and blood vessel diseases.

Internationally-renowned cardiologist Professor Chris Semsarian AM leads our Molecular Cardiology Program, and has welcomed the state government's move. He believes the [funding boost](#) has the potential to save thousands of lives, and will also give researchers a greater incentive to stay in Australia.



NEW HOPE FOR THOSE AT RISK OF LIVER CANCER

A three-year study, led by PhD Student James Henderson and Professor Mark Gorrell (from Centenary's Liver Enzymes in Metabolism and Inflammation Program) has

developed a more efficient model of human liver cancer, which is useful for a better understanding of how liver disease and liver scarring advances into liver cancer.

"Our novel model has progressed two key areas: fast-tracking the time it takes to conduct modelling, while more closely replicating liver cancer drivers that occur in humans," James said.

"This places researchers in a much better position to develop effective therapies in future to treat liver cancer in the early stages; reducing the burden on Australia's health-care system and improving patient outcomes." [Read more.](#)



MENTORING WOMEN TO THE TOP OF SCIENTIFIC RESEARCH

Up-and-coming female researchers seeking to take their careers to new heights, are participating in this year's Franklin Women's mentoring program.

Now in its second year, the six-month program has 74 mentees and mentors who have been carefully matched by Serendis Leadership Consulting. Centenary is among eight academic partners supporting Franklin Women, which is a professional network designed to support females working in the science and health industry.

Centenary's Dr Jodie Ingles and Dr Jessamy Tiffen have been selected as mentees in this year's program, while Associate Professor Patrick Bertolino and Associate Professor Mark Gorrell are sharing their expertise as mentors. Additionally, Dr Devanshi Seth Head of our Alcoholic Liver Disease Laboratory has been selected to sit on Franklin Women's Peer Advisory Committee.



AN ARRAY OF AWARDS

Three scientists from Centenary took home top prizes at this year's Sydney Local Health District Innovation and Research Awards.

Head of our Gene and Stem Cell Therapy Program, Professor John Rasko, AO was awarded 2018 Research Excellence, while Head of our Liver Enzymes in Metabolism and Inflammation Program, Professor Mark Gorrell, won Research Supervisor of the year.

Dr Elinor Hortle won the Annual Health Research Infrastructure Award, which will help Centenary buy essential equipment for ongoing world-class research.

Separately, Centenary's Dr Jodie Ingles and Dr Stefan Oehlers have been awarded NSW Health Early-Mid Career Fellowships. [See more.](#)

HOW TO GET INVOLVED IN 2018

2018 CENTENARY INSTITUTE FOUNDATION DINNER

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We warmly invite you to join us for the 2018 Centenary Institute Foundation Dinner on Thursday 20th September, 6.30pm at the Art Gallery of New South Wales.

Now in its 10th year, the dinner will be hosted by award-winning journalist, Anton Enus, and will feature entertainment by the fabulous Hannah James Trio, the very talented Jonathan Zwart and renowned jazz vocalist - the delightful Emma Pask.

Our aim for this event is to raise \$250,000 to support our most precious asset - our brilliant scientists - through the provision of annual fellowships, where they can further their research, and become our Future Leaders.

To purchase tickets: www.centenary.org.au/bookings/

We look forward to celebrating with you!

To read all the full stories from our latest news and find out about our events visit www.centenary.org.au.

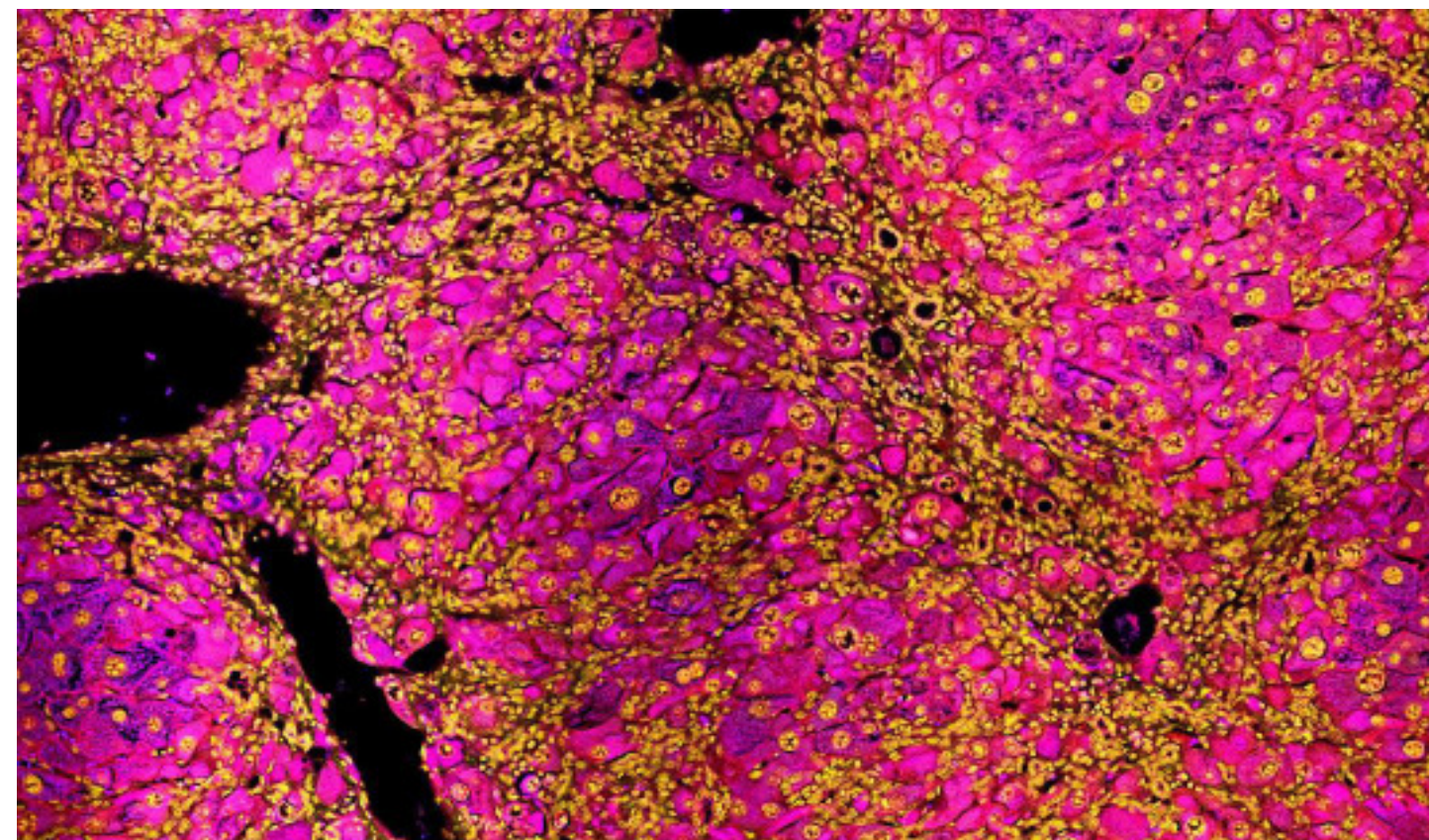
Your generosity makes a world of difference to our researchers! There are lots of different ways you can offer your support and ensure your contribution is used to directly impact the area of research you are passionate about. If you're interested in making a donation to a specific area of our research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

NEWS UPDATE SPRING 2018



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IN THE MEDIA

A GAME-CHANGING DISCOVERY IN DIAGNOSING GENETIC HEART DISEASE



Scientists at Centenary and Royal Prince Alfred Hospital have used state-of-the-art technology to significantly improve the diagnosis rate of a potentially deadly heart condition by up to 20 per cent.

Hypertrophic cardiomyopathy is a common genetic heart condition, which can affect both men and women at any age. It occurs when the heart muscle thickens – making it difficult for the heart to pump blood, and in some cases, results in sudden cardiac death.

Funded by NSW Health, our scientists have used whole genome sequencing to explore hypertrophic cardiomyopathy in 58 Australian families, who are directly affected by the disease. Whole genome sequencing allowed the scientists to look at regions of patients' genes which were previously not considered important.

Senior Researcher for Centenary's Molecular Cardiology Program and the University of Sydney, Dr Richard Bagnall is lead author of the paper, and believes it's a game-changer in the field.

"This study shows we can use this incredible technology to diagnose hypertrophic cardiomyopathy in 2-out-of-10 more families. But there is a lot more information within those whole genomes we haven't even had a look at yet, so this is really just scraping the surface of what's possible," Dr Bagnall said.

Head of Centenary's Molecular Cardiology Program, Royal Prince Alfred Hospital cardiologist and University of Sydney Professor Chris Semsarian AM, has led the study, which he describes as a much more robust approach to genetic diagnosis in cardiomyopathy.

"This is precision medicine – finding the exact genetic change which is leading to disease in individual patients. The next step is to then link those genetic changes with the clinical features of these patients," Professor Semsarian said.

The breakthrough featured as a package on [Ten Eyewitness News](#), in Macquarie Radio news bulletins (2GB, 3AW, 4BC, 6PR) and [News Local](#) papers.

BOOSTING THE HUMAN BODY'S FIGHT AGAINST MELANOMA

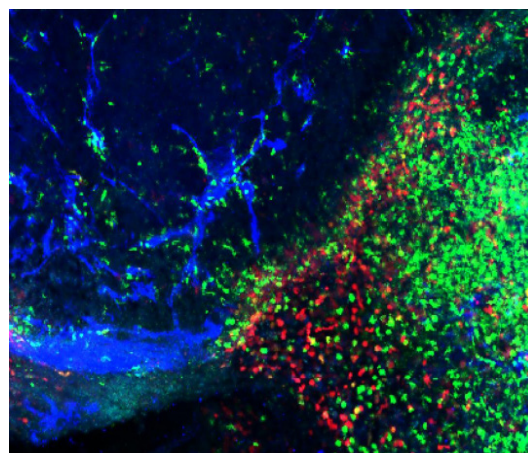


Image of a melanoma: Dendritic cells in red, blood vessels in blue, monocyte (a cell type that tends to promote tumour growth) in green.

Scientists in our Skin Imaging laboratory have uncovered a new pathway in the body which fights cancer; paving the way for the development of drugs that improve the prognosis of patients with melanoma and other types of cancer.

"Sadly, Australia has one of the highest rate of melanoma in the world, with more than 1800 Australians dying from the disease each year. Our research has improved our understanding of how the body mounts the anti-cancer immune response but has also opened up ways scientists can develop new therapies to target this cell type in melanoma," says Stuart Cook of Centenary's Skin Imaging and Inflammation laboratory, the lead author on the paper.

Differential chemokine receptor expression and usage by pre-cDC1 and pre-cDC2 was published in the journal Immunology and Cell Biology.

You can read the full Media Release at www.centenary.org.au/publications/media-centre/

HUMANS OF MEDICAL RESEARCH

DR BEN ROEDIGER



Dr Ben Roediger is investigating the mechanisms by which inflammation contributes to chronic inflammatory diseases, including allergic disease and cancer. Ben knows first-hand how devastating these conditions can be. Both his father and brother suffered from eczema and asthma. His father was the only one in his school with asthma when he was a child, but cases of allergic disease have been steadily rising in Western society and scientists are still working to understand what is causing the rise and how to better treat these diseases.

Ben recalls his brother suffering terrible asthma, and his parents taking him to hospital many times to treat potentially deadly attacks. Ben's brother still lives with asthma but thanks to medical advancements, it is now better managed with modern medication. The eczema however, still effects every area of his life. "It's really tough, my brother feels unable to fulfil his potential," says Ben.

Ben's own son was also hospitalised with viral bronchitis, often a harbinger of asthma in later childhood. "He was a tiny baby, just struggling to breathe, his chest wheezing. It was hard to see" says Ben.

In light of his family history, it is surprising that Ben himself doesn't suffer an allergic or inflammatory disease, but after witnessing so much suffering by loved ones, it is no wonder why Ben has been drawn towards this specific area of medical research. He is now a much respected, important part of the effort to understand these diseases and find cures or better, more effective treatments, improving the quality of life for those suffering like his brother, son and father.

Ben's family are very proud of the career path he has chosen, despite opting not to follow in his parent's footsteps. Both Ben's father and mother are pilots, connecting over their common love. Ben's mother was somewhat of an aviation pioneer, first learning to fly in the 1960's when it was much more 'acceptable' for women to be air hostesses. His father flew domestic planes for Ansett. Both are now in their 70's and his mother still flies planes.

Being an internationally recognised researcher, Ben travels for work but it's not something he enjoys, being 6.1ft tall! We are glad medical research became Ben's passion and that he is working to uncover the mysteries of inflammatory diseases, alongside other scientists all over the globe!

ASSOCIATE PROFESSOR PATRICK BERTOLINO



Associate Professor Patrick Bertolino and his group have recently discovered a new, never-before identified cell subset located in the outer membrane of the liver which could inform more targeted treatments for the fastest growing cancer killer in Australia, liver cancer as well as liver disease. The finding was published in the prestigious journal, Immunity.

At Centenary, Patrick leads the Liver Immunology group. "For the past 25 years, the goal of my research aims to better understand the unique interactions between the liver and the immune system and why liver transplants have more chance of being accepted in the absence of anti-rejection drugs than any transplanted organ."

Patrick and his team have made many important, internationally recognised discoveries. They're currently focused on understanding the role of the newly identified cell in the outer membrane of the liver and understanding why some liver-tropic infections do not protect the individual against subsequent infections by the same microbe.

Patrick has been fascinated for much of his career by a single organ - the liver. "My passion for research is fuelled by an eager curiosity as well as a burning desire to dissect and understand the mechanisms that would explain a complex biological phenomenon or process. Research satisfies my personal intellectual need while at the same time increasing our basic knowledge, improving current treatments and potentially saving human lives."

When you meet Patrick, first you'll notice his friendly smile and perhaps his French accent, which might confuse some, when they hear his Italian surname, "Bertolino". Patrick has Italian parents, he was raised in Tunisia, North Africa, attending a French school and going on to study at the University of Lyon in France. It's fair to say he's travelled a unique path to the Centenary Institute, where he has been for the past two decades.

Patrick's work requires extreme focus, on a single organ, cell, disease or mechanism, so outside of the lab, Patrick says it's important to relax. He loves to travel and socialise with his mates, of which he has many, thanks to that friendly smile!

To meet more of our Humans of Medical Research visit www.centenary.org.au/support-us/current-appeal/